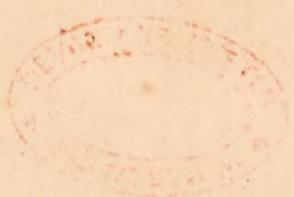


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I N D E X . I.

In which the Plants contained in the fifth Fasiculus are arranged according to the System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 Ligustrum vulgare	
2 Veronica Anagallis	} DIANDRIA Monogynia.
3 Veronica scutellata	
4 Valeriana Locusta	} TRIANDRIA Monogynia.
5 Alopecurus pratensis	
6 Alopecurus geniculatus	} TRIANDRIA Digynia.
7 Bromus giganteus	
8 Holcus mollis	} TETRANDRIA Monogynia.
9 Hordeum murinum	
10 Melica uniflora	} TETRANDRIA Tetragynia.
11 Melica cærulea	
12 Poa aquatica	} PENTANDRIA Monogynia.
13 Sherardia arvensis	
14 Sagina apetala	} PENTANDRIA Digynia.
15 Potamogeton crispum	
16 Atropa Belladonna	} PENTANDRIA Pentagynia.
17 Lycopsis arvensis	
18 Lysimachia nemorum	} HEXANDRIA Monogynia.
19 Lysimachia vulgaris	
20 Chenopodium oildum	} HEXANDRIA Polygynia.
21 Scandix Pecten	
22 Linum usitatissimum	} HEXANDRIA Trigynia.
23 Leucojum æstivum	
24 Convallaria majalis	} OCTANDRIA Monogynia.
25 Juncus pilosus	
26 Juncus sylvaticus	} DECANDRIA Pentagynia.
27 Alisma Plantago	
28 Alisma Damasonium	} DODECANDRIA Digynia.
29 Rumex Acetosella	
30 Erica vulgaris	} ICOSANDRIA Pentagynia.
31 Spergula arvensis	
32 Agrimonia Eupatoria	} ICOSANDRIA Polygynia.
33 Spiræa Ulmaria	
34 Rosa canina	} POLYANDRIA Monogynia.
35 Tormentilla officinalis	
36 Cistus Helianthemum	} DIDYNAMIA Gymnospermia.
37 Papaver dubium	
38 Papaver Argemone	} DIDYNAMIA Angiospermia.
39 Origanum vulgare	
40 Teucrium Scorodonia	} TETRADYNAMIA Siliculosa.
41 Antirrhinum minus	
42 Euphrasia officinalis	} TETRADYNAMIA Siliquosa.
43 Rhinanthus Crista Galli	
44 Schrophularia aquatica	} DIADELPHIA Decandria.
45 Thlaspi campestre	
46 Sinapis alba	} SYNGENESIA Polygamia æqualis.
47 Sinapis arvensis	
48 Sisymbrium Irio	} SYNGENESIA Polygamia superflua.
49 Sisymbrium terrestre	
50 Erysimum officinale	} GYNANDRIA Diandria.
51 Lathyrus Aphaca	
52 Spartium Scoparium	} MONŒCIA Triandria.
53 Trifolium procumbens	
54 Vicia Cracca	} DICŒCIA Enneandria.
55 Crepis tectorum	
56 Leontodon hispidum	} CRYPTOGAMIA Fungi.
57 Onopordum Acanthium	
58 Prenanthes muralis	
59 Sonchus palustris	
60 Achillea Ptarmica	
61 Anthemis Cotula	
62 Chrysanthemum Leucanthemum	
63 Matricaria Chamomilla	
64 Senecio erucæfolius	
65 Orchis latifolia	
66 Sparganium ramosum	
67 Sparganium simplex	
68 Mercurialis annua	
69 Agaricus aurantius	
70 Agaricus æruginosus	
71 Agaricus carnosus	
72 Agaricus verrucosus	

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I N D E X II.

Latin Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	Plate
<i>Achillea Ptarmica</i>	60
<i>Agaricus aurantius</i>	69
<i>Agaricus æruginosus</i>	70
<i>Agaricus carnosus</i>	71
<i>Agaricus verrucosus</i>	72
<i>Agrimonia Eupatoria</i>	32
<i>Alisma Plantago</i>	27
<i>Alisma Damalonium</i>	28
<i>Alopecurus pratensis</i>	5
<i>Alopecurus geniculatus</i>	6
<i>Anthemis Cotula</i>	61
<i>Antirrhinum minus</i>	41
<i>Atropa Belladonna</i>	16
<i>Bromus giganteus</i>	7
<i>Chenopodium olidum</i>	20
<i>Chrysanthemum Leucanthemum</i>	62
<i>Cistus Helianthemum</i>	36
<i>Convallaria majalis</i>	24
<i>Crepis tectorum</i>	55
<i>Erica vulgaris</i>	30
<i>Erysimum officinale</i>	50
<i>Euphrasia officinalis</i>	42
<i>Holcus mollis</i>	8
<i>Hordeum murinum</i>	9
<i>Juncus pilosus</i>	25
<i>Juncus sylvaticus</i>	26
<i>Lathyrus Aphaca</i>	51
<i>Leontodon hispidum</i>	56
<i>Leucojum aestivum</i>	23
<i>Ligustrum vulgare</i>	1
<i>Linum usitatissimum</i>	22
<i>Lycopsis arvensis</i>	17
<i>Lysimachia nemorum</i>	18
<i>Lysimachia vulgaris</i>	19
<i>Matricaria Chamomilla</i>	63
<i>Melica uniflora</i>	10
<i>Melica cærulea</i>	11
<i>Mercurialis annua</i>	68
<i>Onopordum Acanthium</i>	57
<i>Orchis latifolia</i>	65
<i>Origanum vulgare</i>	39
<i>Papaver dubium</i>	37
<i>Papaver Argemone</i>	38
<i>Poa aquatica</i>	12
<i>Potamogeton crispum</i>	15
<i>Prenanthes muralis</i>	58
<i>Rhinanthus Crista Galli</i>	43
<i>Rosa canina</i>	34
<i>Rumex Acetosella</i>	29
<i>Sagina apetala</i>	14
<i>Scandix Pecten</i>	21
<i>Schrophularia aquatica</i>	44
<i>Senecio erucæfolius</i>	64
<i>Sherardia arvensis</i>	13
<i>Sinapis alba</i>	46
<i>Sinapis arvensis</i>	47
<i>Sisymbrium Irio</i>	48
<i>Sisymbrium terrestre</i>	49
<i>Sonchus palustris</i>	59
<i>Sparganium ramosum</i>	66
<i>Sparganium simplex</i>	67
<i>Spartium scoparium</i>	52
<i>Spergula arvensis</i>	52
<i>Spiræa Ulmaria</i>	31
<i>Teucrium Scordronia</i>	33
<i>Thlaspi campestre</i>	40
<i>Tomentilla officinalis</i>	45
<i>Trifolium procumbens</i>	35
<i>Valeriana Locusta</i>	53
<i>Veronica scutellata</i>	4
<i>Veronica Anagallis</i>	3
<i>Vicia Cracca</i>	2
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I N D E X III.

English Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	Plate
<i>AGRIMONY</i>	32
<i>BARLEY-GRASS wall.</i>	9
<i>BLITE stinking</i>	20
<i>BROME-GRASS tall</i>	7
<i>BROOM common</i>	31
<i>BUGLOSS field</i>	17
<i>BURR-REED great</i>	66
<i>BURR-REED small</i>	67
<i>CHAMOMILE corn</i>	63
<i>CHARLOCK</i>	47
<i>CISTUS dwarf.</i>	36
<i>CORN-SALAD</i>	4
<i>COTTON-THSTLE</i>	57
<i>DANDELION rough</i>	56
<i>DWALE, or DEADLY NIGHTSHADE</i>	16
<i>EYBRIGHT common</i>	42
<i>FIGWORT water</i>	44
<i>FLAX common</i>	22
<i>FOXTAIL-GRASS jointed</i>	6
<i>FOXTAIL-GRASS meadow</i>	5
<i>GERMANDER sage-leav'd</i>	40
<i>HEDGE-MUSTARD</i>	50
<i>HEATH common</i>	30
<i>LILY OF THE VALLEY</i>	24
<i>LOOSE STRIFE yellow</i>	19
<i>MARJORAM wild</i>	39
<i>MAYWEED stinking</i>	61
<i>MEADOW-GRASS water</i>	12
<i>MEADOW-SWEET</i>	33
<i>MELIC-GRASS single-flower'd</i>	10
<i>MELIC-GRASS blue</i>	11
<i>MERCURY annual</i>	68
<i>MITHRIDATE-MUSTARD</i>	45
<i>MONEYWORT wood</i>	18
<i>MUSHROOM fleshy</i>	71
<i>MUSHROOM warty</i>	72
<i>MUSHROOM orange</i>	69
<i>MUSHROOM verdigris</i>	70
<i>MUSTARD white</i>	46
<i>ORCHIS marsh</i>	65
<i>OXEYE common</i>	62
<i>PEARLWORT annual</i>	14
<i>PONDWEED curled</i>	15
<i>POPPI long prickly-headed</i>	38
<i>POPPI long smooth-headed</i>	37
<i>PRENANTHES, or WILD LETTUCE</i>	58
<i>PRIVET, or PRIM</i>	1
<i>RAGWORT hoary</i>	64
<i>ROCKET London</i>	48
<i>ROSE dog</i>	34
<i>RUSH small hairy wood</i>	25
<i>RUSH great hairy wood</i>	26
<i>SHEPHERDS-NEEDLE</i>	21
<i>SHERARDIA field</i>	13
<i>SNEESEWORT</i>	60
<i>SNOWFLAKE summer</i>	23
<i>SOFT-GRASS creeping</i>	8
<i>SORREL sheep's</i>	29
<i>SOW-THISTLE tree</i>	59
<i>SPEEDWELL bog</i>	3
<i>SPEEDWELL water</i>	2
<i>SPURREY corn</i>	31
<i>SUCCORY HAWKWEED smooth</i>	55
<i>TOAD-FLAX least</i>	41
<i>TORMENTIL</i>	35
<i>TREFOIL procumbent</i>	53
<i>VETCH tufted</i>	54
<i>VETCHLING yellow</i>	51
<i>WATER-PLANTAIN starry-headed</i>	28
<i>WATER-PLANTAIN greater</i>	27
<i>WATER-RADISH annual</i>	49
<i>YELLOW-RATTLE</i>	43

LIGUSTRUM VULGARE. PRIVET, OR PRIM.

LIGUSTRUM Linn. Gen. Pl. DIANDRIA MONOGYNIA.

Cor. 4-fida. Bacca tetrasperma.

Raii Syn. ARBORES BACCIFERÆ.

LIGUSTRUM vulgare. Linn. Syst. Vegetab. p. 54. Sp. Pl. p. 10. Fl. Suec. n. 5. Haller Hist. n. 530. Scopoli Flor. Carniol. n. 4. Hudson Fl. Engl. ed. 2. p. 3. Lightfoot Fl. Scot. p. 72.

LIGUSTRUM Germanicum. Bauh. Pin. 475. Ger. em. p. 1394. Parkinson p. 1446. Raii Syn. p. 465. Privet, or Prim.

FRUTEX sepedalis circiter, ramosus; cortex ex cinereo virescens, punctis plurimis sparsis prominulis exasperata: rami oppositi, junioribus flexilibus, purpurascensibus.

FOLIA opposita, brevissime petiolata, ovato-lanceolata, utrinque glabra, integerrima, inferioribus ad exortum ramulorum minoribus.

FLORES albi, odorati, paniculati.

PANICULA biuncialis, densa, subpyramidata.

RAMI paniculae ut pedicelli ad lentem villosi.

CALYX: PERIANTHIUM monophyllum, minimum, hemisphaericum, albido, ore quadridentato, dentibus erectis, minimis, fig. 1.

COROLLA monopetala, infundibuliformis, alba, cito rufescens. Tubus cylindraceus, longior calyce. Limbus quadripartitus, patens, laciniis ovatis crassis, obtusis, fig. 2.

STAMINA: FILAMENTA duo, opposita, brevissima, alba. ANTERÆ majusculæ, erectæ, longitudine fere corollæ. POLLEN flavescens, fig. 3.

PISTILLUM: GERMEN subrotundum. STYLUS filiformis, albus, superne paululum incrassatus. STIGMA obtusum, crassiusculum, vix manifeste bifidum, fig. 4.

PERICARPIUM: BACCA globosa, glabra, nigra, unilocularis, fig. 5.

SEMINA tria five quatuor, hinc convexa, inde angulata, fig. 6.

A SHRUB, usually about six feet high, branched, the bark of a greenish ash colour, irregularly sprinkled with numerous prominent points; branches opposite, the young ones flexible and purplish.

LEAVES opposite, standing on very short foot-stalks, ovato-lanceolate, smooth on each side, perfectly entire, the lower ones at the bottoms of the small branches least.

FLOWERS white, sweet-scented, forming a panicle. PANICLE about two inches in length, close, and somewhat pyramidal.

BRANCHES of the panicle, as well as the flower-stalks, villous when magnified.

CALYX: a PERIANTHIUM of one leaf, very small, hemispherical, and whitish, the mouth having four teeth, which are upright and very minute, fig. 1.

COROLLA of one petal, funnel-shaped, white, soon changing to a reddish-brown colour. The tube cylindrical, longer than the calyx. Limb deeply divided into four segments, which are spreading, ovate, thick, and obtuse, fig. 2.

STAMINA: two FILAMENTS, opposite, very short and white. ANTERÆ rather large, upright, almost the length of the corolla. POLLEN yellowish, fig. 3.

PISTILLUM: GERMEN roundish. STYLE filiform, white, a little thickened above. STIGMA obtuse, thickish, scarce perceptibly bifid, fig. 4.

SEED-VESSEL: a round, smooth, shining, black berry, of one cavity, fig. 5.

SEEDS three or four, convex on one side, and angular on the other, fig. 6.

Previous to the publication of the *Flora Japonica* by Professor THUNBERG*, the present celebrated successor to the immortal LINNÆUS, Botanists were acquainted with one species of Ligustrum only. That gentleman describes another, to which he gives the name of *japonicum*, and characterises the two in the following manner:

Ligustrum vulgare foliis ovatis obtusis, panicula simpliciter trichotoma.

Ligustrum japonicum foliis ovatis acuminatis panicula decomposita trichotoma.

In point of utility, not to say ornament, few of our English or even foreign shrubs exceed the common Privet. Its chief use is to form such hedges as are required in the dividing of gardens for shelter or ornament; the Italian or ever-green Privet, as it is called, which is only a variety of the common species, is usually preferred for this purpose. The Privet bears clipping admirably well; is not liable to be disfigured by insects, and having roots formed only of fibres, it robs the ground less than almost any other shrub. It is found to thrive better in the smoke of great cities than most others; so that whoever has a little garden in such places, and is desirous of having a few plants that look green and healthy, may be gratified in the Privet, because it will flourish and look well there. MILLER says it will grow well under the shade and drip of trees.

The best mode of raising Privet is from seeds, though it is capable of being propagated by layers and cuttings.

The Privet is not apt to be eaten by cattle, and the *Sphinx Ligustris*, or *Privet Hawk Moth*, one of the largest as well as the most beautiful insects we have, is almost the only one that feeds on it in its Caterpillar state. There are few gardens having Privet in which this Caterpillar may not be found in the months of August and September. The readiest way of discovering it is by its dung, which is sufficiently visible under those shrubs on which it feeds. The *Meloe vesicatorius*, commonly known by the name of Cantharides, or Blister-Beetle, is found also on the leaves of this shrub. The berries of the Privet continue on the plant till spring advances, and in times of scarcity are eaten by different sorts of birds; but by none with so much avidity as the Bullfinch (*Loxia Pyrrhula*). Bird-catchers who know this, often catch them in the following manner: they take some large boughs of the Privet in berry, stick them into the ground where Bullfinches frequent, lime the top twigs, and place a call bird underneath.

The berries are also recommended in dying, colouring of wines, and as affording a purple colour to stain prints; but for these several purposes there are much better materials in common use.

It usually grows in woods and hedges; is not nice in its soil or situation, but flourishes most in a moist soil; flowers in July, and ripens its berries in Autumn.

It is found with three leaves at a joint, with variegated leaves, and white berries. HALLER.

* Caroli Petri Thunberg Flora Japonica, Lipsiæ 1784.



Ligustrum vulgare.

J. Sowerby del. et sculps.



Veronica Anagallis.

J. Sowerby del. et sculp.

2

VERONICA ANAGALLIS. WATER SPEEDWELL.

VERONICA Linn. Gen. Pl. DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, lacinia infima angustiore. Capsula bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *Anagallis racemis lateralibus, foliis lanceolatis ferratis, caule erecto.* Linn. Syst. Vegetab. p. 56. Sp. Pl. p. 16. Fl. Suec. n. 13.

VERONICA *foliis lanceolatis ferratis, glabris, ex alis racemosa.* Haller Hist. n. 553.

VERONICA *Anagallis Scopoli Fl. Carn. n. 12.*

ANAGALLIS *aquatica minor folio oblongo.* Baub. Pin. 252.

ANAGALLIS *aquatica folio oblongo crenato.* Park. 1237.

ANAGALLIS *aquatica major.* Ger. emac. 620.

VERONICA *aquatica longifolia media.* Raii Syn. 280. The Middle Long-leav'd Water Speedwell or Brooklime. Hudson Fl. Engl. ed. 2. p. 5. Lightfoot Fl. Scot. p. 73.

RADIX annua, fibrosa.	ROOT annual, and fibrous.
CAULIS erectus, pedalis ad bipedalem, teres, subangulosus, glaber, ad basin usque ramosus, inferne purpureascens.	STALK upright, from one to two feet high, round, slightly angular, smooth, branched quite to the bottom, below purplish.
FOLIA opposita, sessilia, lanceolata, saepe ovato-lanceolata, ferrata, glabra, venosa, pallide viridia.	LEAVES opposite, sessile, lanceolate, often ovato-lanceolate, serrated, smooth, veiny, of a pale green colour.
FLORES racemosi, numerosi, triginta quadraginta aut etiam plures in singulo racemo.	FLOWERS growing in racemi, numerous, from thirty to forty, or even more on one racemus.
RACEMI laterales, oppositi, longissimi, suberecti.	RACEMI lateral, opposite, very long, nearly upright.
PEDUNCULI ad lentem subviscidi.	FLOWER-STALKS somewhat viscid when magnified.
BRACTEÆ lanceolatæ.	FLORAL-LEAVES lanceolate.
CALYX: PERIANTHUM quadripartitum, persistens, lacinia ovato-lanceolatis, acutis, levibus, trinervibus, subæqualibus, fig. 1.	CALYX: a PERIANTHUM deeply divided into four segments, and permanent, the segments ovato-lanceolate, pointed, smooth, three-ribbed, and nearly equal, fig. 1.
COROLLA monopetala, rotata, pallide purpurea, lacinia superiore et duabus lateralibus venis saturioribus striata, fig. 2.	COROLLA monopetalous, and wheel-shaped, of a pale purple colour, the uppermost segment and the two lateral ones streaked with deeper veins of the same colour, fig. 2.
STAMINA: FILAMENTA duo, purpurascens, medio crassiora; ANTERÆ concolores; POLLEN album, fig. 3.	STAMINA: two FILAMENTS of a purplish colour, thickest in the middle; ANTERÆ of the same colour; POLLEN white, fig. 3.
PISTILLUM: GERMEN viride; STYLUS declinatus purpurascens, superne crassior; STIGMA obtusum, fig. 4.	PISTILLUM: GERMEN green; STYLE depending, purplish, thickened above; STIGMA blunt, fig. 4.
PERICARPIUM: CAPSULA bilocularis, subinde trilocularis, subrotunda, vix emarginata, polysperma, fig. 5.	SEED-VESSEL: a CAPSULE of two cavities, sometimes three, roundish, scarcely emarginate, containing many seeds, fig. 5.
SEMINA plurima, subrotunda, minutissima, fig. 6.	SEEDS numerous, roundish, and very minute, fig. 6.

The *Veronica Anagallis* is a much more general plant than the *Scutellata*, being found in almost every watery ditch, but especially in those which communicate with the Thames, on the edges of which it is also extremely common.

It is apt to vary considerably according to situation; when it grows in ditches that have a considerable depth of water, it becomes much taller, the stalk is proportionably thicker, and the leaves are apt to be curled; when it grows out of the water, the plant is smaller, the leaves are broader, flatter, and of a paler hue; in all situations its racemi are remarkably long and full of flowers, and its seeds are uncommonly small and numerous.

It blossoms from June to September.

The seed-vessels are sometimes found very much enlarged; on cutting them open a small larva was found in some, and a pupa in others, which, on being kept a proper time, produced a small Curculio or Weevil.

VERONICA SCUTELLATA. BOG SPEEDWELL.

VERONICA *Linn. Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, laciñâ infima angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU- SICCO SINGULARI FLORE MONOPETALO.

VERONICA *scutellata* racemis lateralibus alternis; pedicellis pendulis, foliis linearibus integerrimis.
Linn. Syst. Vegetab. p. 57. Sp. Pl. p. 16. Fl. Suec. n. 17.

VERONICA foliis lanceolatis, ferratis, glabris, ex alis racemosa. *Haller Hist. 533.*

VERONICA *scutellata.* *Scopoli Fl. Carn. n. 22.*

ANAGALLIS aquatica angustifolia scutellata. *Baub. Pin. 252.*

VERONICA aquatica angustifolia minor. Narrow-leav'd Water Speedwell, or Brooklime. *Raii Syn. p. 280. Hudson Fl. Angl. ed. 2. p. 5. Lightfoot Fl. Scot. p. 74.*

RADIX perennis, fibrosa, fusca.

ROOT perennial, fibrous, of a brown colour.

CAULIS: paulo supra terram furculi plerumque steriles erumpunt, qui humi repent, caulis florifer suberectus, debilis, teres, vix angulosus, glaber, ramosus, semipedalis ad pedalem, bafi etiam aliquando repens.

TALK: just above the ground young shoots spring forth, which are for the most part destitute of flowers and creep on the earth, the flowering stalk is nearly upright, weak, round, scarce perceptibly angular, smooth, branched, from six inches to a foot in height, sometimes also creeping at bottom.

FOLIA opposita, sessilia, lineari-lanceolata, glabra, minutim et rariter dentata.

LEAVES opposite, sessile, betwixt linear and lanceolate, smooth, finely tooth'd, teeth distant.

FLORES albi, seu pallide carnei, racemosi.

FLOWERS white, or of a pale flesh colour, growing in racemi.

RACEMI laterales, plerumque alterni, laxi, flexuosi, multiflori.

RACEMI lateral, for the most part alternate, loose, crooked, and bearing many flowers.

BRACTEÆ minutæ, lanceolatæ.

FLORAL-LEAVES minute, and lanceolate.

PEDUNCULI capillares, alterni, demum penduli.

FLOWER-STALKS capillary, alternate, finally pendulous.

CALYX: PERIANTHIUM parvum, quadripartitum, laciñis ovato-lanceolatis, subæqualibus, fig. 1.

CALYX: a PERIANTHIUM small, deeply divided into four segments, which are ovato-lanceolate and nearly equal, fig. 1.

COROLLA monopetala, rotata, plerumque alba, laciñâ superiore venis purpureis picta, fig. 2.

COROLLA monopetalous, wheel-shaped, for the most part white, the upper segment streaked with purple veins, fig. 2.

STAMINA: FILAMENTA duo, medio incrassata, alba; ANTHERÆ albæ, fig. 3.

STAMINA: two FILAMENTS, thickest in the middle, white; ANTHERÆ white, fig. 3.

PISTILLUM: GERMIN viride; STYLUS declinatus, albus; STIGMA obtusum, flavescens, fig. 4.

PISTILLUM: GERMIN green; STYLE depending, white; STIGMA blunt, yellowish, fig. 4.

PERICARPIUM: CAPSULA compressa, suborbicularia, emarginata, bilocularis, polysperma, ad 16, fig. 5.

SEED-VESSEL: a CAPSULE nearly round, flattened, emarginate, of two cavities, containing numerous seeds, to 16, fig. 5.

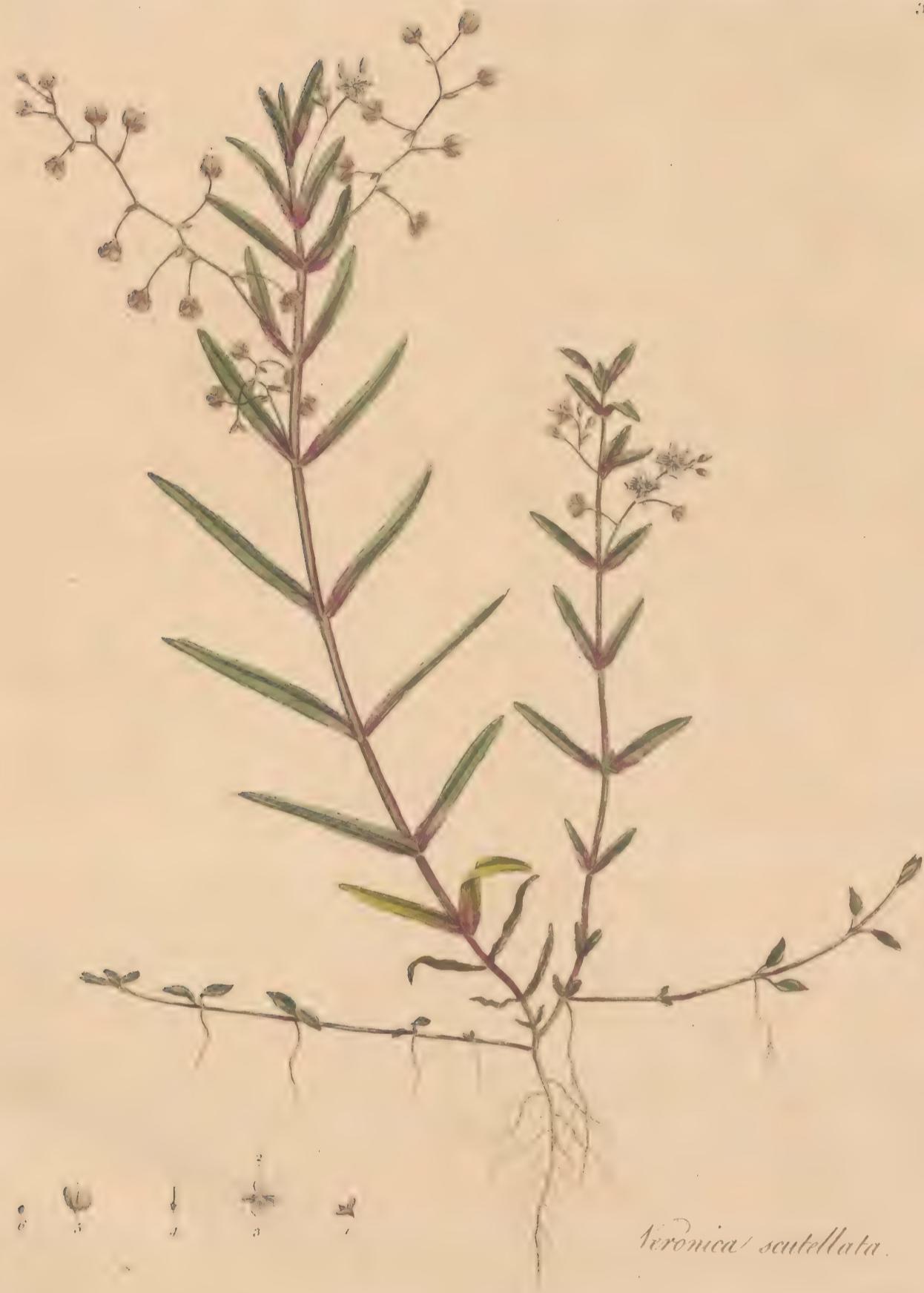
SEMINA orbiculata, plana, flava, fig. 6.

SEEDS round, flat, and yellow, fig. 6.

This species of Veronica is distinguished from the others by several characters, such as, its place of growth, which is peculiar, it being seldom found but on bogs, or the edges of ponds, especially such as we find on heaths and moors, hence we have called it *Bog Speedwell*; the narrowness as well as smoothness of its leaves also strikingly distinguishes it; LINNÆUS's term of *integerrimus*, as applied to them, is certainly too strong, for they are always toothed, though faintly, and in a singular manner; and if these characters were not sufficient, the loose straggling manner in which the flower stalks grow, would at once point out the *Scutellata* as a distinct species.

It is common in the situations above described on most of our heaths, and flowers from June to September.

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Veronica scutellata.

Constance del. et gravi.



VALERIANA LOCUSTA. CORN SALLAD.

VALERIANA Lin. Gen. Pl. TRIANDRIA MONOGYNIA.

Cal. o. Cor. 1-petala, basi hinc gibba, supera, Sem. 1.

VALERIANA *Locusta* floribus triandris, caule dichotomo, foliis linearibus. Lin. Syst. Vegetab. p. 73. Sp. Pl. p. 47. Fl. Suec. n. 36.

VALERIANA foliis oblongis, rarer incisis, corona seminis simplici, acuminata. Haller Hist. 214.

VALERIANA *Locusta*. Scopoli Fl. Carn. n. 46.

VALERIANA campestris inodora major. Bauh. Pin. 165.

VALERIANELLA arvensis præcox humilis semine compresso. Mor. Umb.

LACTUCA agnina. Ger. emac. 310. Park. 812. Raii Syn. p. 201. Lamb's Lettuce, or Corn Sallad. Hudson. Fl. Angl. ed. 2. p. 13. Lightfoot Fl. Scot. p. 85.

RADIX annua, fibrosa, pallide fusca.

ROOT annual, fibrous, of a pale brown colour.

CAULIS erectus; spithameus, pedalis et ultra, pro ratione loci, teres, angulato-striatus, subpubescens, tener, ad unum latus saepius purpurascens, dichotomus.

STALK upright, from four inches to a foot or more in height, according to its place of growth, round, grooved or angular, slightly downy, tender, usually purplish on one side, dichotomous.

FOLIA radicalia, plurima, patentiuscula, subfuscata, glabra, venosa, subrugosa, obovata, obsolete dentata, caulina opposita, sessilia, remota, ad basin præsertim ciliata, suberecta, suprema subserrata.

LEAVES next the root numerous, somewhat spreading, slightly succulent, smooth, veiny, a little wrinkled, inversely ovate, faintly toothed, those of the stalk opposite, sessile, remote, at the base particularly, edged with hairs, somewhat upright, the uppermost ones slightly serrated.

FLORES minimi, cœrulecentes, corymbosi.

FLOWERS very minute, of a blueish colour, growing in a corymbus.

CALYX nullus.

CALYX wanting.

COROLLA longitudine germinis, tubulosa, subvioletacea, quinquefida, laciis rotundatis, patentibus, subæqualibus, fig. 1.

COROLLA the length of the germen, tubular, faintly violet-coloured, divided into five segments, which are roundish, spreading, and nearly equal, fig. 1.

STAMINA: FILAMENTA tria, alba, longitudine corollæ. ANTHÆ parvæ, albæ, fig. 2.

STAMINA: three FILAMENTS of a white colour, the length of the corolla. ANTHÆ small and white, fig. 2.

PISTILLUM: GERMEN inferum, nudum, majuscum, obovatum, viride, utrinque lineâ exaratum, hinc convexum, subgibbosum, inde planiusculum, fig. 4. STYLUS staminibus paulo brevior. STIGMA trifidum, fig. 3.

PISTILLUM: GERMEN placed below the corolla, naked, rather large, inversely ovate, green, having a narrow groove on each side, convex and somewhat gibbous on one side, flattish on the other, fig. 4. STYLE a little shorter than the stamina. STIGMA trifid, fig. 3.

SEMINA plurima, nuda, pallide fusca, subrotunda, acutiuscula, parum compressa, transversim rugosa, fig. 5.

SEEDS numerous, naked, of a pale brown colour, roundish, a little pointed, somewhat flattened, and transversely wrinkled, fig. 5.

In treating of the *Valeriana dioica* we had occasion to notice the extreme inconstancy of the fructification in this genus; an inconstancy scarcely to be paralleled in any other tribe, and affecting not only the Linnæan system, as depending on number of stamens, but such systems also as may be founded on the form of the corolla, or structure of the seed. In the *officinalis*, *dioica*, and several other valerians, the seeds are furnished with a pappus or down, here they are altogether naked.

The present plant is a well-known culinary one; the radical leaves are in general use in the spring to mix with other salad herbs, and sometimes eaten alone: the French call them *Salad de Preter*, from their being generally eaten in Lent.

It grows wild in corn-fields, on walls, banks, and in gardens. In corn-fields it is usually very small, grows with a single stem, and often occurs with diseased heads, occasioned by some insect. The leaves are sometimes more than usually serrated. A variety of this sort is made a species of by RAY. There are several other varieties mentioned by LINNAEUS in his *Species Plantarum*, which have not come under our observation.

It flowers in May, and ripens its seed in June.



*Alopecurus
pratensis.*

ALOPECURUS PRATENSIS. MEADOW FOXTAIL-GRASS.

ALOPECURUS Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Cor. 1-valvis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS *pratensis* culmo spicato erecto, glumis villosis, corollis muticis. Linn. Syst. Vegetab. p. 93. Sp. Pl. p. 88. Fl. Suec. 20.

ALOPECURUS spica ovata. Haller. Hist. n. 1539.

GRAMEN phalaroides majus sive italicum. Bauh. Pin. 4.

GRAMEN alopecuroides majus. Ger. emac. 10.

GRAMEN phalaroides majus. Parkins. 1164.

GRAMEN alopecuro simile glabrum cum pilis longiusculis in spica onocordon mihi denominatum.

I. B. II. Raii Syn. p. 396. The most common Foxtail-grass. Hudson. Fl. Angl. ed. 2. p. 27. Lightfoot Fl. Scot. p. 91. Schreb. Gram. 133. t. 19. f. 1.

RADIX perennis, fibrosa, fibris pallide fuscis.

CULMI sesquipedales, bipedales, nec raro tripedales, erecti, teretes, striati, laves, ad basin purei, radicantes.

FOLIA palmaria aut spithamæa, sensim in acutum mucronem terminata, glabra, striata, parte superna et ad margines, si digitæ deorsum ducentur, aspera, lineam unam cum dimidia communiter aut duas fere lata. Vaginæ striatæ, laves, in superiore parte culmi inflatæ. Membrana brevis, obtusa.

SPICA sesquiuncialis, biuncialis, duas etiam nonnunquam cum dimidia uncias longa, duas tresve lineas lata, teres, cylindracea, obtusa, mollis.

SPICULÆ unifloræ, compressæ, utrinque ciliatæ, nervosæ, mucronato-tridentatæ, fig. 1.

CALYX: *Gluma* bivalvis, uniflora, valvulis subæquilibus, ovato-lanceolatis, concavis, compressis, trinervibus, nervis pilosis, fig. 2.

COROLLA univalvis, *valvula* concava, longitudine calycis, albida, subdiaphana, superne nervis tribus viridibus insignita, aristata; *arista* calyce duplo fere longior, dorso valvulae versus basin inserta, fig. 3.

STAMINA: FILAMENTA tria, capillaria. ANTHÈRÆ oblongæ, utrinque bifurcæ, plerumque purpurascentes, demum ferrugineæ, fig. 4.

PISTILLUM: GERMEN ovatum, minimum. STYLI duo, villosi, reflexi, calyce longiores. STIGMATA simplicia, fig. 5.

SEmen ovatum, minimum, glumis testum, fig. 6, 7.

ROOT perennial and fibrous, the fibres of a pale brown colour.

STALKS a foot and a half, two feet, and not unfrequently three feet high, upright, round, finely grooved, smooth, at bottom purple, and tillering.

LEAVES a hand's-breadth or short span in length, gradually tapering to a point, smooth, striated, if drawn backward across the fingers feeling rough on the upper side and on the edges, commonly a line and a half or almost two in breadth. Sheaths striated, smooth, on the upper part of the stalk inflated. Membrane short and blunt.

SPIKE an inch and a half, two inches and sometimes even two inches and a half long, and two or three lines broad, round, cylindrical, blunt and soft.

SPICULÆ one flower in each, flat, each side edged with hairs, ribbed, slightly tridentate, the middle point longest, fig. 1.

CALYX: a *Glume* of two valves, containing one flower, the valves nearly equal, ovate and pointed, flattened, three-ribbed, the ribs hairy, fig. 2.

COROLLA of one valve, the valve hollow, the length of the calyx, whitish, somewhat transparent, marked on the upper part with three green ribs, and bearded; the beard or awn almost as long again as the calyx, inserted into the back of the valve towards the base, fig. 3.

STAMINA: three capillary FILAMENTS. ANTHÈRÆ oblong, forked at each end, for the most part purplish, finally ferruginous, fig. 4.

PISTILLUM: GERMEN ovate, very minute. STYLES two, villous, reflexed, longer than the glumes of the calyx. STIGMATA simple, fig. 5.

SEED ovate, very minute, covered by the glumes, fig. 6, 7.

In a former number of this work, containing the *Festuca fluitans*, we gave a copious extract from that excellent work on Grasses, the *Beschreibung der Græser* of Professor SCHREBER: we now present our readers with an abridged account from the same author of another grass, apparently of much greater consequence in agriculture.

The Meadow Foxtail-grass is chiefly an inhabitant of the northern part of our moderate zone, being found abundantly in most parts of Germany, Holland, France, England, Denmark, Norway, Sweden, and Russia. Professor GMELIN has also found it plentifully in Siberia.

Though the grasses in general are not so strongly attached to particular situations as many plants are, yet they are always more abundant, and superior in goodness, in some one kind of ground than another. The Meadow Fox-tail loves a meadow ground somewhat low, and moderately wet, with a good soil, though it will also grow in dry, and even in quite wet ground; yet, in the first, it remains poor, small, and disappears by little and little, while, in the latter, other grasses are apt to overpower and supplant it.

In such districts of Saxony as are celebrated for the goodness of their meadows, it always makes a considerable part of the hay; and the same remark has been made by Mr. STILLINGFLEET and Professor KALM in England, respecting the best meadows about London.

The

The Meadow Foxtail is one of those grasses which appear first in the spring, and sometimes blow twice in the same year *, In respect to flowering, it observes nearly the same time as the *Anthoxanthum odoratum*. In Germany it puts forth its silvery spikes about the beginning of May †, when the seed is ripe, which with us takes place before hay-making ‡, the spike remains unchanged in its shape for some time; the little husks containing the seed may easily be stripped off, but fall off very slowly of themselves.

Experience proves that the Meadow Foxtail-grass has a power of vegetating quickly. Its shoots proceed with such vigour, that it may very well be cut three times in a year. Its stalks are strong, and provided with large leaves, which are soft and juicy. Their taste is as that of good fodder-grass ought to be, sweetish and agreeable, having, when made into hay, neither the hardness of straw, nor the roughness or unpleasant taste attendant on some of the other grasses; we may therefore consider it as holding the first place among the good grasses, either used as fresh fodder, or made into hay, especially for the larger cattle. Though the sheep in such meadows as abound with this grass, do not improve in the fineness of their wool, yet they give a preference to it, both green and dried. On the whole, we may with truth assert, that hay is better in proportion to the quantity of Meadow Foxtail-grass there is among it; not to mention that such hay has the advantage in the weight, and consequently goes farther than hay made of the finer grasses.

In the northern countries, Sweden especially, the meadows are frequently laid waste by a most destructive caterpillar, which produces a moth called, by LINNÆUS, *Phalæna graminis*: it has been discovered, that the *Alopecurus pratensis* remains untouched by this destructive insect; so far, therefore, from injuring this grass, it gives it an opportunity, by weakening and destroying the others, to extend itself further; but though its particular taste or forward growth exempts it from the ravages of this species of caterpillar, there is another which is particularly fond of it, viz. the *Phalæna potatoria*, yet as this feeds singly on its foliage, and never increases greatly, it suffers little from it §.

As this grass, therefore, appears to be of so much consequence in the making and improving of meadows and pastures, our author proceeds to give some account how this improvement may be effected.

In this business the first thing of moment, he observes, is the necessary choice and preparation of the ground; if that be in the power of the cultivator, and as the Meadow Foxtail is found neither to thrive in a soil that is quite dry, or quite wet, he prefers a wet one rendered moderately dry by draining.

After procuring a piece of ground naturally fit, or rendered so by art, he recommends it to be ploughed up immediately after harvest, before the wet season sets in, in which state it is to remain all the winter; the frost breaking the clods, renders it fit for sowing on in the spring, at which time you must throw in your seeds of the Meadow Foxtail, mixed with other proper pasture herbs ||, together with a crop of oats ¶; the latter, when sufficiently grown, may be cut for fodder.

A meadow, thus improved, requires all the care necessary in the management of meadows; in particular, a copious watering after hay-making, if the season prove unusually dry, must not be omitted. If after some years the soil should become bound, or noxious plants increase in such a manner as to make the meadow less productive, which often happens when the soil or situation is unfavourable, the meadow must be broken up and fresh sown.

The procuring of the seed, requisite even for a tolerably large sowing, is attended with but little difficulty, if we can only get some slips or roots of this grass. The great number of seeds which grow upon one spike, of which more than one spring from each slip; the double crop in one summer, and the rapid growth of this grass, evince this sufficiently. The gathering of the seed itself is very easy; it needs only to be stripped off with the hand, and put in a bag, and if there be a large quantity together, spread out and dried, even the hay-seed of such meadows as abound with Meadow Foxtail is useful in sowing; but we must well observe how it is mixed: good hay-seed should contain a greater proportion of grass-seeds than of other herbs; the latter must be esculent and nutritive, without any mixture of hard, woody, or succulent ones, which corrupt the hay: much less should it contain tasteless, acrid, or poisonous plants. But it may be asked, where is such hay-seed to be obtained? Certainly the meadows are rare which contain a mixture of proper plants unadulterated with noxious ones; hence the best method will be to collect separately the seeds of the most useful grasses and meadow plants, to increase them singly, to compound the hay-seed of them, and to sow therewith, at first, small meadows, from whence we may, in process of time, obtain a sufficient stock of seed for a more general cultivation.

* This disposition of grasses to flower more than once in the same year, is perhaps deserving of more attention than may have hitherto been paid to it. We have noticed it to take place strongly in the present grass, the yellow Oat, the tall Oat, and some others; on the contrary, there is one grass, viz. the *Poa pratensis*, already figured, which we have never observed to shew the least disposition to throw up a flowering stem twice in the same year. While this may serve as an additional character, whereby it may be distinguished from the *Poa trivialis*, it may also recommend it as a suitable grass for extensive lawns, where bents are troublesome, and offend the eye. We observed, in treating of the *Poa pratensis*, that its root was of the creeping kind; it will probably be found, that all those grasses which have that sort of root flower but once in a season; and if we consider a creeping root as similar in its economy to a bulb, we shall not be at a loss to account for it.

† Its usual time of flowering with us.

‡ In the neighbourhood of London, hay-making generally commences three or four weeks sooner than it does fifty miles from town. Whether this practice hath arisen from the richness of soil accelerating the growth of the herbage, or from the meadows abounding more with early grasses, it may perhaps be difficult to determine; but certainly, by this practice, we reap all the advantages from those early grasses which are lost by longer delay; and hence the seeds of our hay-lofts must be proportionably better than those at a distance, as early grass is preferable to late.

§ In the papers of the Bath Agricultural-Society, vol. II. p. 79. the Rev. Mr. SWAYNE, of Puckle-Church, in Gloucestershire, gives an account of a very minute insect, which, feeding within the husks of the spikes, renders them barren; we shall quote his own words. "On rubbing out the husks, when I judged the seed to be approaching to ripeness, I found almost every seed-vessel occupied by a soft substance, of a deep yellow or orange colour, no ways resembling a seed. On applying the microscope, this substance proved to be a congeries of animalcules, which being shook out on a sheet of white paper, and separated from each other, displayed the exact shape and motion of those insects which are oftentimes found in hams and bacon, and which are known among housewives by the name of hoppers. The flies likewise, which these caterpillars produce, were found to be very like the hopper flies, only infinitely smaller."

|| We should prefer the latter-end of August, or beginning of September, for the purpose of sowing grass seeds, provided the season proved favourable.

¶ Should the land intended to be laid down be very foul, we apprehend, repeated ploughings and harrowings, and that for more than one season, would be necessary. Farmers are divided in their opinions respecting the propriety of sowing Oats or Barley with grass-seeds; some apprehending, that the corn does the young grass more harm by robbing it of its nourishment, than the shade or shelter afforded thereby does it good.

Nephrum geniculatum.



ALOPECURUS GENICULATUS. JOINTED FOX-TAIL GRASS.

ALOPECURUS. Lin. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Cor. 1-valvis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS geniculatus culmo spicato infraeto, corollis muticis. Lin. Syst. Vegetab. p. 93.
Sp. Pl. 89. Fl. Suec. n. 60. Haller. Hist. n. 1541.

ALOPECURUS geniculatus culmo adscendente, spica cylindrica, glumis apice divergentibus
pilosis. Hudson Fl. Angl. ed. 2. p. 27.

ALOPECURUS geniculatus Scopol. Fl. Carn. n. 82.

GRAMEN aquaticum geniculatum spicatum. Baub. pin. 3. Scheuchz. Agrost. 72.

GRAMEN fluviatile spicatum. Ger. emac. 14.

GRAMEN aquaticum spicatum. Parkins. 1373. Raii Syn. 396. Spiked Flote Grass. Lightfoot,
Fl. Scot. p. 92. Oeder Fl. Dan. 564.

RADIX	perennis, fibrosa, fibris albicantibus, et quan-	ROOT	perennial, fibrous, the fibres whitish, some- times inclined to brown.
CULMI	plures, pedales, sesquipedales et ultra, in- ferne procumbentes, et saepe repentes, sub- erecti, geniculati, infraeti, ramosi, superne nudi, striati, basi praesertim in solo arido plus minus bulboso.	STALKS	several, a foot, a foot and a half or more in length, below procumbent, and often creeping, nearly upright, jointed, crooked, above naked and striated, branched, the base especially in a dry soil more or less bulbous.
FOLIA	duo aut tres lineas lata, striata, superne di- gitis deorsum ductis aspera, inferne laevia, superiora brevia, uncialia aut biuncialia, patentia, saepe ad margines crispa; mem- brana ad basin folii ovata, acuta; vaginæ laeves, striatae, ventricosæ.	LEAVES	two or three lines broad, striated, the up- per side if drawn backwards betwixt the fingers rough, the under side smooth, the uppermost leaves short, an inch or two inches long, spreading, often crimped at the edges; the membrane at the base of the leaf, ovate and pointed, the sheaths smooth, striated, and bellying out.
SPICÆ	unciales, sesquiunciales et ultra, subcylin- draceæ, forma et colore maxime variantes, nunc obtusæ nunc ad apicem sensim at- enuatae, virescentes, purpurascientes, aut etiam nigricantes procul saltum visæ.	SPIKE	an inch, an inch and a half or more in length, somewhat cylindrical, varying greatly both in form and colour, sometimes blunt, and sometimes tapering to a point, greenish, purplish, and even blackish, at least when viewed at a distance.
FLOSCULI	imbricati.	FLORETS	imbricated.
CALYX:	GLUMA uniflora, bivalvis, compressa, val- vulis oblique truncatis, pubescentibus, tri- nerviis, carina ciliata, fig. 1.	CALYX:	a GLUME of two valves, containing one flower, flattened, the valves obliquely truncated, downy, three-ribbed, the keel ciliated, fig. 1.
COROLLA:	GLUMA univalvis, oblonga, ovata, truncata, quinquenervis, pellucida, nuda, aristata, fig. 2. Arijta juxta basin exserta, corolla duplo longiore, fig. 3.	COROLLA:	a GLUME of one valve, oblong, ovate, truncated, five ribbed, pellucid, without hairs, and bearded, fig. 2. the Beard or awn pro- ceeding from near the base, and twice the length of the corolla, fig. 3.
STAMINA:	FILAMENTA tria, corollâ longiora; ANTHERÆ oblongæ, primum purpureæ, demum ferrugineæ, fig. 4.	STAMINA:	three FILAMENTS, longer than the corolla; ANTERÆ oblong, at first purple, afterwards ferruginous, fig. 4.
PISTILLUM:	GERMEN subrotundum; STYLI duo, cirrhosi, albidi, extra calycem protensi, fig. 5.	PISTILLUM:	GERMEN roundish; STYLES two, slender, feathery, and extended beyond the calyx, fig. 5.

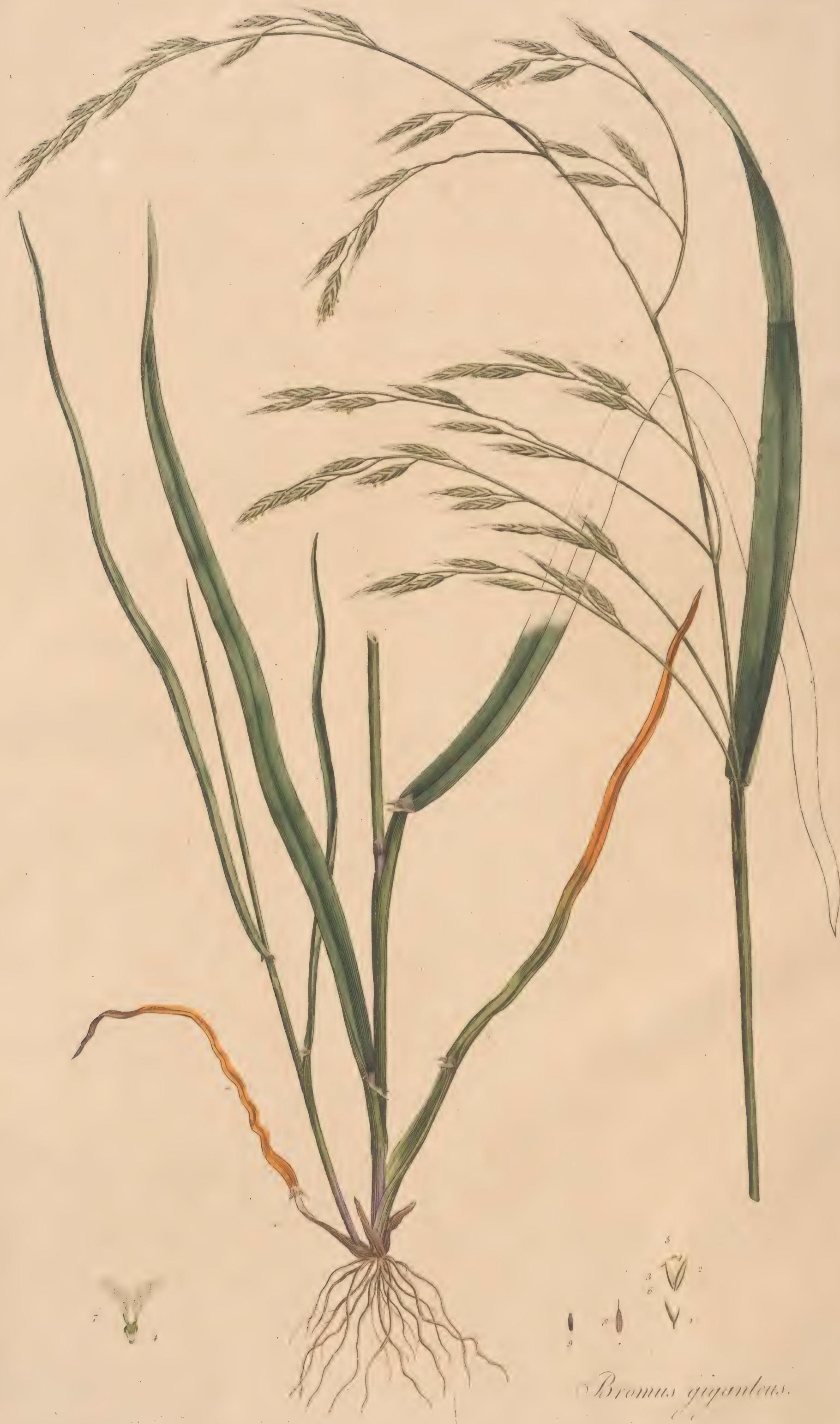
It is in the depressed parts of meadows, where water is occasionally apt to stagnate, that this species of Fox-Tail Grass particularly delights to grow, nor is it unfrequent on the edges of ponds, streams, and wet ditches, where it often makes its way into the water.

In the first, the stalks are procumbent at the base, spread themselves on the ground, and extend a foot or more in length; before they rise upwards, the spikes often assume a blackish or deep purple colour, which causes it to be noticed by the Farmer, who distinguishes it by the name of Black Grass*. In the second, it is very much enlarged in its size, and approaches near to the *Alopecurus pratensis*; but the stalk still retains towards the bottom its crooked appearance.

It flowers in June.

Cattle eat it readily, nevertheless it cannot be recommended as a profitable Grass; nor do the more observing Farmers consider it as such: indeed, where such Grass is apt to abound, the best practice would be to fill up the depressions, and sow the ground with better Grasses.

* The Farmer also distinguishes the *Alopecurus agrestis* (*myosuroides*, Fl. Lond.) by the name of Black Grass.



Bromus giganteus.

BROMUS GIGANTEUS. TALL BROME GRASS.

BROMUS Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teres, disticha: arista infra apicem.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *giganteus* panicula nutante, spiculis quadrifloris: aristis brevioribus. *Linn. Syst. Vegetab.* p. 103. *Spec. Plant. p. 114. Fl. Suec. n. 34.*

BROMUS *giganteus* panicula ramosa nutante, ramis binatis, spiculis subquadrifloris arista brevioribus. *Hudson Fl. Engl. p. 51.*

BROMUS glaber, loculis quadrifloris nutantibus, aristis longissimis. *Haller Hist. n. 1510.*

BROMUS *giganteus*. *Scopoli. Fl. Carn. n. 116. VAR. 1. glabra et minor.*

GRAMEN *bromoides aquaticum latifolium, panicula sparsa tenuissime aristata.* *Scheuchz. Agrost. p. 264. t. 5. fig. 17.*

GRAMEN *sylvaticum glabrum, panicula recurva.* *Vaill. Paris, p. 93.*

GRAMEN *avenaceum glabrum, panicula e spicis raris strigosis composita, aristis tenuissimis.* *Raii Hist. 1909. Syn. p. 415. Lightfoot Fl. Scot. p. 104.*

RADIX perennis, fibrosa.

CULMUS tripedalis et ultra, erectus, laevis, geniculis plerumque purpureis.

FOLIA semunciam lata, late viridia, laevia, inferne nitida, basi appendiculis ex fusco purpureis utrinque, caulem amplexantibus, instructa; *vagina* inferne scabriuscula, minime pilosa, superne glabra; *membrana* brevissima.

PANICULA ampla, pedalis etiam, sparsa, ramis plerumque binatis, nutantibus, secundis, scabriusculis.

SPICULÆ ovato-lanceolatæ, subquinquifloræ, semiunciales, plerumque virides, laeves, aristatae: *Aristæ* albæ, spiculis paulo longiores, flexuofæ, scabrae.

CALYX : GLUMA bivalvis, valvulis inæqualibus, acuminatis, viridibus, marginibus albidis, majore lineis tribus, minore unica subdia-phana notata, *fig. 1.*

COROLLA : GLUMA bivalvis, valvulis subæqualibus, viridibus, laevis, margine albis, exteriore majore, concava, obsolete trinervi, aristata, aristâ glumâ longiore paulo infra apicem exsertâ, interiore minore, planiuscula, albida, *fig. 2, 3.*

NECTARIUM : GLUMULÆ duæ, acuminatæ, ad basin germinis, *fig. 4.*

STAMINA : FILAMENTA tria, capillaria, alba; AN-THERÆ flavæ, bifurcæ, *fig. 5.*

PISTILLUM : GERMIN obovatum, viride, nitidum; STYLI duo, patentes, ad basin usque ramosi, *fig. 6. auct. fig. 7.*

SEmen oblongum, ex nigro purpurascens, intra glumas adhærentes inclusum, *fig. 8, 9.*

ROOT perennial and fibrous.

STALK three feet or more in height, upright, smooth, the joints for the most part purple.

LEAVES half an inch broad, of a bright green colour, smooth, shining underneath, furnished at the base on each side with two purplish-brown appendages, which embrace the stalk; sheath below a little rough to the touch, but not hairy, above smooth; the membrane very short.

PANICLE large, even a foot long, loose, branches generally growing in pairs, all one way, drooping, and roughish.

SPICULÆ ovato-lanceolate, containing about five flowers, half an inch in length, for the most part green, smooth, and bearded: Beards white, a little longer than the spiculæ, crooked, and rough.

CALYX : a GLUME of two valves, the valves unequal, pointed, green, with white edges, the large valve marked with three, and the small one with one somewhat transparent line, *fig. 1.*

COROLLA : a GLUME of two valves, the valves nearly equal, green, smooth, the edges white, the outer one largest, hollow, faintly three-rib'd, and bearded, the beard longer than the glume, and proceeding from a little below the point, the interior one least, somewhat flat and whitish, *fig. 2, 3.*

NECTARY : two small pointed GLUMES at the base of the germen, *fig. 4.*

STAMINA : three capillary, white FILAMENTS; ANOTHERÆ yellow and forked, *fig. 5.*

PISTILLUM : GERMIN inversely ovoid, green and shining; STYLES two, spreading and branched quite to the bottom, *fig. 6. magnified, fig. 7.*

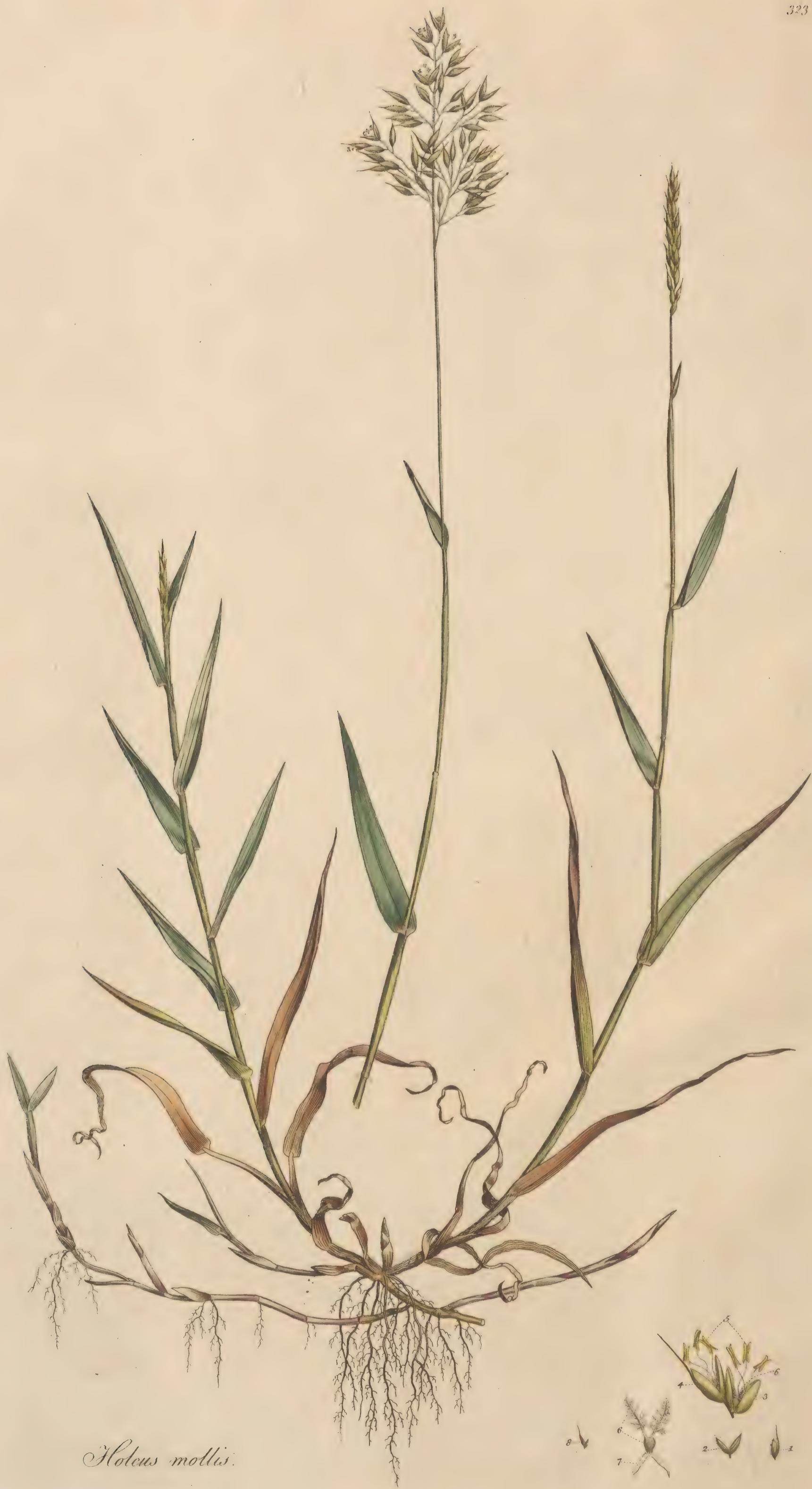
SEED oblong, of a blackish-purple colour, enclosed within the glumes which adhere to it, *fig. 8, 9.*

There is only one grass for which this species of *Bromus* is liable to be mistaken, and that is the *Bromus hirsutus* already figured, they are both large grasses, and grow in similar situations; indeed frequently together: they have been confounded by SCOPOLI, who makes the *hirsutus* a variety of the *giganteus*; but the least attention would have taught him, that they were materially different.

The sheath of the lower leaves in the *hirsutus* is covered with long stiff hairs, which are wanting in the *giganteus*; the leaves of the *giganteus* are glossy on the under side, and those of the stalk, near their extremities, appear as if a slack ligature had been tied round them: but there is a character almost peculiar to this grass, the base of the leaf is terminated by two small appendages, of a reddish-brown colour, which usually embrace the stalk, and will never fail to distinguish it from the *hirsutus*: the spiculæ also, if no other distinguishing character were present, would be all-sufficient, being shorter by almost one half, containing fewer flowers, and having aristæ or awns longer in proportion to the spiculæ and more crooked: we may add another character which we have discovered from cultivation, the *giganteus* is a perennial, whereas the *hirsutus* is only an annual or biennial, a circumstance which we were not sufficiently apprized of when we described that plant.

This grass is frequent enough in the neighbourhood of London, in woods, and under hedges, especially such as are accompanied by a wet ditch, nor is it uncommon by the sides of the Thames; the situation which it affects with us, is more agreeable to the name given it by SCHEUCHZER, than to the account delivered by LINNÆUS in his *Species plantarum*, where he says, *habitat in Europæ sylvis siccis*: we very rarely or never find it in meadows; hence, though a productive grass, there seems not much probability of its becoming a good grass for meadows or pastures.

It flowers from July to September.



Holcus mollis.

HOLCUS MOLLIS. CREEPING SOFT-GRASS.

HOLCUS Linn. Gen. Pl. POLYGAMIA MONOECIA.

HERMAPHROD. Cal. Gluma 1-f. 2-flora. Cor. Gluma aristata. Stam. 3: Styli 2. Sem. 1.

MASC. Cal. Gluma 2-valvis. Cor. o. Stam. 3.

HOLCUS *mollis* radice repente, geniculis villofisis, aristâ extra spiculam producâtâ.

HOLCUS *mollis* glumis bifloris nudiusculis: flosculo hermaphrodito mutico: masculo aristâ geniculata.

Linn. Syst. Veget. p. 760. Sp. Pl. p. 1485.

GRAMEN caninum longius radicatum majus et minus. Bauh. Pin. 1.

GRAMEN paniculatum molle, radice graminis canini repente. Moris. Hist. 3. p. 202.

GRAMEN caninum paniculatum molle. Raii Hist. 1285. Scheuchz. Agrost. p. 235. Vaill. Paris. p. 87.

GRAMEN miliaceum aristatum molle. Raii Syn. p. 404. Hudson Fl. Angl. ed. 2. p. 440. Lightfoot

Fl. Scot. p. 631. Schreb. Agrost. t. 20.

RADIX perennis, tritici canini instar repens.

CULMI sesquipedales et ultra, saepius erecti, foliosi, nodosi, geniculis albis, lanatis, culmi etiam steriles occurunt ad terram magis reclinati, foliis crebrioribus, alternis, lanceolatis, vestiti.

FOLIA ad tres vel quatuor lineas lata, molli villo pubescentia, membranâ ad basin folii alba, obtusa, vagina striata, subcarinata, villosa.

PANICULA biuncialis, erecta, instante anthesi diffusa, demum coarctata.

RAMULI paniculae purpurascentes, pilosi.

SPICULÆ bifloræ etiam trifloræ, fig. 3, 4. albidae seu parum purpurascentes, flosculis omnibus hermaphroditis.

CALYX: gluma bivalvis, utrinque ciliata, ceteroquin nuda, valvula alterâ majore et paulo longiore, trinerve, nervis obscure viridibus, fig. 1, 2.

COROLLA: bivalvis, valvulis longitudine subæqualibus, basi pilosis, viridibus, exteriore majore, glabra, gibbosa, interiore plana ad lentem subnervosa, hispidula, e dorso majoris valvulae superioris flosculi exsurgit arista spicula longior, primo recta, demum tortilis, geniculata, fig. 3, 4.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, flavæ, utrinque bifurcæ, fig. 5.

PISTILLUM: GERMEN subrotundum, nitidum, minimum. STYLI duo, plumosi, fig. 6.

NECTARIUM: glumulæ duæ, lanceolatae, ad basin germinis, fig. 7.

SEMINA duo, nitida, ovato-acuta, altera aristata, altera mutica, glumis calycinis inclusa, fig. 8.

ROOT perennial, creeping like the garden couch-grass.

STALKS a foot and a half or more in height, most commonly upright, leafy, jointed, the joints white and woolly, stems also arise producing no spikes, inclined more to the ground, and covered with more numerous, alternate, lanceolate leaves.

LEAVES three or four lines in breadth, covered with soft short hairs, the membrane at the base of the leaf white and obtuse, the sheath striated, somewhat keeled and villous.

PANICLE two inches in length, upright, during the flowering spread out, afterwards closed up.

BRANCHES of the panicle purplish and hairy.

SPICULÆ containing two, sometimes three flowers, fig. 3, 4. whitish, or slightly tinged with purple, all the florets hermaphrodite.

CALYX: a glume of two valves, edged on both sides with hairs, otherwise naked, one of the valves larger and a little longer than the other, having three ribs, of an obscure green colour, fig. 1, 2.

COROLLA of two valves, the valves nearly equal in length, hairy at bottom, of a green colour, the outermost largest, smooth, and gibbous, the innermost flat, somewhat ribbed when magnified, and a little hispid, from the back of the largest valve of the uppermost flower arises an awn, longer than the spicula, at first straight, lastly twisted and bent, fig. 3, 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, yellow, forked at each end, fig. 5.

PISTILLUM: GERMEN roundish, shining, very small.

STYLES two, feathery, fig. 6.

NECTARY: two, small, lanceolate glumes at the base of the germen, fig. 7.

SEEDS two, shining, ovate, pointed, the one bearded,

the other naked, enclosed within the glumes of the calyx, fig. 8.

Notwithstanding this grass has been well named and described by some of the older Botanists, particularly MORISON and RAY, its characters do not appear to be generally well understood. Baron HALLER considers it as too nearly related to the *lanatus*, to be with propriety considered as a distinct species; and Mr LIGHTFOOT, in his *Flora Scotica*, entertains similar doubts.

We have cultivated the two in separate beds, close to each other, for several years: have noticed them with a marked attention, where they have grown wild: and from a variety of characters, are led to consider them as perfectly distinct.

The most striking of these characters we shall here enumerate. In the first place they differ widely in their natural places of growth: while the *lanatus* is most commonly found in meadows and pastures, the *mollis* rarely occurs but in woods and its environs. We have, indeed, frequently found the *lanatus*, which is by far the most general grass of the two, in a wood; but we never recollect seeing the *mollis* in meadows or pastures, and but rarely in corn-fields, where it has been said chiefly to grow. Comb Wood in particular affords a strong instance of its attachment to shady situations. Contrary to what some authors assert, we have ever found the *mollis* the least plant: or, if it has been observed equally tall as the other, it has produced by far the most scanty panicle; nor do the spiculae, in general, assume that brilliant colour which so eminently distinguishes those of the *lanatus* on their first coming out. But the character which puts its being a species out of all doubt, is its root; that of the *lanatus* does not creep, while the *mollis* possesses that property in a degree equal to the strongest couch-grass. The other characters which strikingly distinguish this species are its woolly joints and its large pointed spiculae, in which the beard, or awn, is invariably much longer than the glumes of the calyx.

In speaking of the *lanatus* we took notice of the impropriety of separating that grass from the general mass, because one of the flowers in each spicula was imperfect*. The fructification of the present species argues more strongly for its union with the others: here both flowers are hermaphrodite, both have stamens and feathery styles, and both produce apparently perfect seeds. Indeed we can perceive no character to distinguish it from an *aïra*, to which genus it perhaps with propriety belongs.

SCHREBER's figure gives a good representation of the panicle when closed, but neither represents the joints or root well.

As we consider the *Holcus lanatus*, which is much to be preferred to the present species, as a very indifferent grass for cattle, so we cannot but look on the *mollis* as one of the worst species of couch; and, if it should ever become a practice to sow certain woods with grass seeds, this species ought surely to be eradicated.

It flowers in July.

* SCOPOLI, from a circumstance of this sort, has in our opinion absurdly enough placed the *Avena clatior* with the *Holcus*.



Hordeum murinum.

L. Gray del. & col.

HORDEUM MURINUM. WALL-BARLEY.

HORDEUM Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. lateralis, bivalvis, uniflorus, ternus.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

HORDEUM murinum flosculis lateralibus masculis aristatis, involucris intermediis ciliatis. Linn. Synt.
Vegetab. p. 108. Sp. Pl. p. 126. Fl. Suec. n. 113.

HORDEUM spicis crassis, longe aristatis, calycinis glumis aristatis. Haller Hist. n. 1536.

HORDEUM murinum Scopoli Fl. Carn. n. 1241.

GRAMEN hordeaceum minus et vulgare. Bauh. Pin. 8.

HORDEUM spurium vulgare. Parkinson 1147.

GRAMEN fecalinum et secale sylvestre. Ger. emac. 73. Raii Syn. p. 391. Wild Rie or Rie-Grafs,
Wall-Barley, Way-Bennet. Hudson Fl. Angl. ed. 2. p. 56. Lightfoot Fl. Scot. p. 108.

RADIX annua, fibrosa, albida vel subfuscata. CULMI plures, pedales et sesquipedales, suberecti, foliosi, basi procumbentes, infracti, geniculati, geniculis majusculis, pallidioribus.

FOLIA palmaria in quibusdam etiam sex uncias longa, duas vel tres lineas lata, subglauca, molli pubescita, basi appendiculis duabus albis, acuminatis, amplexicaulibus, instructa; membra na brevissima, obtusa; vagina vix pubescens.

SPICÆ palmares, et ultra, parum nutantes, pallide virentes, compressæ, spicis hordei distichi haud absimiles.

CALYX: INVOLUCRUM hexaphyllum, triflorum, foliolis setaceis, acuminatis, aristis corollæ brevioribus, scabris, duobus intermediis basi latioribus, ciliatis, fig. 1.

FLOS intermedius hermaphroditus, laterales masculi, omnibus magnitudine et forma similibus, fig. 2.

Flos Hermaphrod.

COROLLA bivalvis, valvula exterior oblongo-ovata, acuminata, obsolete trinervis, laevis, definens in aristam biuncialem scabram, fig. 4. valvula interior lanceolata, plana, medio sulcata, apice emarginato-truncata, fig. 3. ad basin exteriorem hujus valvulae exsertur arista recta longitudine filamentorum, fig. 8.

NECTARIUM: GLUMULEDUAÆ, acuminatæ, ad basin germinis, fig. 7.

STAMINA: FILAMENTA tria, capillaria, glumis corollæ multo breviora. ANTHÆ parvæ, e flavo virescentes, fig. 5.

PISTILLUM: GERMEN ovatum, pubescens. STYLI duo, reflexi, villosi, fig. 6.

ROOT annual, fibrous, whitish, or of a brownish colour, STALKS numerous, a foot or a foot and a half high, nearly upright, leafy, procumbent at the base, and crooked or broken, jointed, the joints rather large and paler than the stalk.

LEAVES a hand's-breadth, or in some even six inches in length, and two or three lines broad, somewhat glaucous, and covered with a soft down, furnished at the base with two small, white, pointed appendages, which embrace the stalk; membrane very short and obtuse; sheath scarcely downy.

SPIKES a hand's-breadth or more in length, drooping a little, of a pale green colour, flat, and not unlike those of common barley.

CALYX: an INVOLUCRUM of six leaves, containing three flowers, the leaves running out to a long bristly point, shorter than the beards of the corolla, the two intermediate ones broader at the base than the others, and edged with hairs, fig. 1.

FLOWER in the middle hermaphrodite, the side ones males, all alike in size and shape, fig. 2.

Hermaphrodite Flower.

COROLLA of two valves, the outer valve oblong-ovate, with a long point, faintly three-ribbed, smooth, terminating in a beard or awn, which is rough to the touch, fig. 4. the inner valve lanceolate, flat, with a groove, truncated at top, and slightly emarginate, fig. 3. at the outer base of this valve arises a straight awn the length of the filaments, fig. 8.

NECTARY: two long-pointed, little GLUMES, at the base of the germen, fig. 7.

STAMINA: three capillary FILAMENTS, much shorter than the glumes of the corolla. ANTHÆ small, of a yellowish green colour, fig. 5.

PISTILLUM: GERMEN ovate, downy. STYLES two, reflexed, and villous, fig. 6.

Some of the grasses are noxious to the husbandman in one way, and some in another. We have been informed, on the most respectable authority, that in the Isle of Thanet this grass is well known to the inn-keepers, who call it Squirrel-Tail Grass; and find, that if horses feed on it for some time, the beards or awns of the spikes stick into their gums, and make them so sore, that they are in danger of being starved. The gentleman, who related to me this fact, informed me, that on the road he had a bill put into his hand, signifying, that at such an inn travellers might depend on having good hay for their cattle, without any mixture of Squirrel-Tail Grass.

It is chiefly on the edges of paths, at the bottoms of walls, and on the borders of fields, that we find this noxious grass; and in such situations it is extremely common in the neighbourhood of London. Fortunately it is seldom or never found in the body of pastures and meadows, and consequently it rarely occurs in our hay.

It continues to flower and produce seed during the greatest part of the summer.

We are carefully to distinguish it from the *Hordeum pratense* of Mr. HUDSON, which LINNÆUS, contrary to the opinion of RAY, VAILLANT, HALLER, and other respectable Botanists, considers only as a variety of the present species.

MELICA UNIFLORA. SINGLE-FLOWERED MELIC-GRASS.

MELICA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. bivalvis, biflorus, rudimentum floris inter flosculos.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERAÆ.

MELICA *uniflora* panicula rara, calycibus bifloris, flosculo altero hermaphrodito, altero neutro. *Retzii Fasc. Obs. Bot. 1. p. 10. n. 9.*

GRAMEN avenaceum locustis rarioribus. *Bauh. Pin. p. 10.*

GRAMEN avenaceum spica mutica rariore gluma. *Hift. Ox. III. t. 7. f. 49.*

GRAMEN avenaceum nemorensis, glumis rarioribus ex fusco xerampelinis. *Raii Syn. p. 403.*

GRAMEN avenaceum rariore grano nemorensis danicum. *Lob. Ad. P. Alt. p. 465. ic. I.B. p. 434.*

MELICA *nutans* petalis imberbibus, panicula secunda nutante, glumo uniflora. *Hudson Fl. Angl. ed. 2. p. 34. Lightfoot Fl. Scot. p. 95.*

RADIX perennis, fibrosa.

CULMUS simplex, sesquipedalis et ultra, foliosus, ubi vaginis foliorum tegitur subangulosus, scaber, striatus, ad basin sordide purpureus.

FOLIA caulina quinque circiter, e flavo viridia, plana, lineam unam cum dimidia aut duas sere lata, in acutum mucronem sensim attenuata, si dorsi deorsum ducantur aspera, superne subpilosa, marginibus ad lentem minutissime serrulatis, membrana brevissima, vix ulla, at quod valde singulare, et notatum dignum, foliolum ovato-acuminatum, erectum, coloratum, ex anteriore parte oris vaginæ oritur, a nemine ante hæc, nec a cl. Retzio observatum, fig. 8.

FLORES paniculati.

PANICULA rara, pedunculis inferioribus geminis, altero breviore, trifloris, in planta in hortis culta etiam septem aut octo floribus, superioribus solitariis.

SPICULÆ pedicellatæ, primo atro-purpureæ, muticæ, bifloræ.

CALYX: *Gluma bivalvis, biflora, colorata, nitida, valvula exteriore majore, ovata, concava, quinque nervi, submucronata; interiore minore, ovato-lanceolata, trinervi*, fig. 1.

FLOS hermaphrod. sessilis; valvula exterior magna, ventricosa, marginibus interiore amplectens, quæ planiuscula, marginibus membranaceis, reflexis, præcipue prope basin, fig. 2, 3.

sterilis pedunculatus, imperfectus, fig. 9. idem evolutus, fig. 10.

STAMINA: FILAMENTA tria, capillaria, brevia. ANTHÆ flavescentes utrinque bifurcatæ, fig. 4.

PISTILLUM: GERMEN ovatum, glabrum, nitidum, flavescens STYLI duo basi discreti, divaricati. STIGMATA villosa, fig. 5.

NECTARIUM: *Squamula minima, integra, ad basin germinis*, fig. 6.

SEmen ovatum, nitidum, majuscum, nigricans, fig. 7.

ROOT perennial and fibrous.

STALK simple, a foot and a half or more in height, leafy, where it is covered with the sheaths of the leaves somewhat angular, rough and striated, at bottom of a dull purple colour.

LEAVES of the stalk about five in number, of a yellowish-green colour, flat, a line and a half or almost two lines broad, terminating gradually in a point, rough if drawn backwards betwixt the fingers, on the upper side somewhat hairy, the edges of the leaves when magnified finely serrated, the membrane very short, scarce any; but what is very remarkable and worthy notice, a small ovate leaf with a long point, upright, and coloured, rises from the forepart of the mouth of the sheath, till now unobserved even by the celebrated *Retzius*, fig. 8.

FLOWERS growing in a panicle.

PANICLE loose, the lowermost flower-stalks growing two together, the one shorter than the other, bearing three flowers, and even seven or eight when cultivated in gardens, the uppermost growing singly.

SPICULÆ standing on little foot-stalks, at first of a dark purple colour, beardless, each containing two flowers.

CALYX: a Glume of two valves, containing two flowers, coloured and shining, the outermost valve ovate, hollow, having five ribs, and terminated by a short point, the innermost least, ovato-lanceolate, and three-ribbed, fig. 1.

FLOWER: the hermaphrodite one sessile, the outer valve large, bellying out, with its edges embracing the inner one, which is flattish, the edges membranous and turned back, especially near the base, fig. 2, 3.

the sterile flower standing on a foot-stalk, and imperfect, fig. 9. the same unfolded, fig. 10.

STAMINA: three FILAMENTS, capillary and short. ANTHÆ yellowish and forked at each end, fig. 4.

PISTILLUM: GERMEN ovate, smooth, shining, and yellowish. STYLES two, separate at bottom and spreading out. STIGMATA villous, fig. 5.

NECTARY: a very minute, entire scale, at the base of the Germen, fig. 6.

SEED ovate, shining, rather large and blackish, fig. 7.

This elegant species, long since noticed and described by many of the old Botanists, particularly RAY, has been overlooked by LINNÆUS. Professor RETZIUS*, in the first fasciculus of his Botanical Observations, describes it anew, and gives it the name of *uniflora*, having found each spicula to contain only one perfect flower. This name we, therefore, most readily adopt. Mr. HUDSON, in his *Flora Anglica*, has mistaken this plant for the *nutans* of LINNÆUS; and to the *nutans* has given the name of *montana*.

The delicacy and striking colour of its panicle, joined to its place of growth, readily distinguishes it from all our other grasses.

It grows plentifully in most of the woods near London, and flowers in May and the beginning of June.

* Andr. Joh. Retzij Fasciculus Observationum Botanicarum primus, cum figuris æneis, Lipsiæ, 1779.



MELICA CÆRULEA. BLUE MELIC-GRASS.

MELICA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. Rudimentum floris inter flosculos.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA cærulea panicula coarctata floribus cylindricis. Linn. Syst. Vegetab. p. 113.

AIRA cærulea foliis planis, panicula coarctata, floribus pedunculatis muticis convoluto subulatis. Linn. Sp. Pl. 95. Fl. Suec. n. 67.

POA spiculis subulatis panicula rara contracta. Fl. Lapp. 29.

AIRA cærulea. Scopoli Fl. n. 91.

GRAMEN arundinaceum enode minus sylvaticum. Baub. Pin. 7. Scheuch Agrost. 209.

GRAMEN pratense ferotinum, panicula longa purpurascente. Raii Hist. 1288. Morif. Hist. 3. p. 201. f. 8. t. 5. f. 22.

GRAMEN pratense spica Lavendulæ. Merr. Pin. 5. Raii Syn. 404. Hudson. Fl. Engl. ed. 2. p. 33. Lightfoot Fl. Scot. p. 96.

RADIX perennis, fibrosa, fibris crassis, albidis seu fuscescentibus, flexuosis, villosis. ROOT perennial, fibrous, thick, whitish or brownish, crooked and villous.

CULMUS pedalis, sesquipedalis, aut bipedalis, basi sub-bulbosus, erectus, unico tantum nodo, eoque prope basin instructo, superne nudus, laevis.

FOLIA plerumque tria, aut quatuor palmaria, et ultra, ex cæruleo virecentia, latiuscula, acuminata, rigidula, inferiora plana, superiora subconvoluta, ad margines pilosa, Membrana nulla, Vagina brevis, striata.

FLORES paniculati.

PANICULA palmaris, et ultra, ramosa, ramis apressis, hinc subspicata.

SPICULÆ bifloræ, trifloræ, et quadrifloræ, saepius vero trifloræ, fig. 1, 2, 3, cum rudimento flosculi in plerisque, fig. 4, 5, juniores compressæ, adultæ teretiusculæ, obtusæ, paululum divergentes.

CALYX bivalvis, valvulae subæquales, acutæ, carinatae, ad margines purpureæ, fig. 6.

COROLLA bivalvis, valvulae subæquales, exteriore majore, interiore amplectente, trinerve, submucronatæ, ad margines purpureæ, interiore binerve, pallidiore, obtusa, paulo breviore, fig. 7.

NECTARIUM: SQUAMULÆ duæ, brevissimæ, latæ, truncatæ, emarginatæ, fig. 8.

STAMINA: FILAMENTA tria, capillaria; ANTERÆ bifurcæ, purpureæ, fig. 11.

PISTILLUM: GERMIN minimum, glabrum, subovatum; STYLI duo, ramosi, ad basin usque purpurei, fig. 9, 10.

STALK a foot, a foot and a half, or two feet high, somewhat bulbous at the base, upright, having only one knot, and that near the base, above naked and smooth.

LEAVES for the most part three or four, about a hand's-breadth in length, of a blueish-green colour, rather broad, long-pointed, stiffish, the lower ones flat, the upper ones somewhat rolled up, hairy at the edges, Membrane none, Sheath short and striated.

FLOWERS growing in a panicle.

PANICLE a hand's-breadth or more in length, branched, the branches closing together so as to form a kind of spike.

SPICULÆ containing two, three, and four flowers, but most commonly three, fig. 1, 2, 3, with a rudiment of a flower in most of them, fig. 4, 5, the young ones flattened, the full-grown ones roundish, obtuse, slightly diverging.

CALYX composed of two valves, the valves nearly equal, pointed, keeled, the edges purple, fig. 6.

COROLLA composed of two valves, the valves nearly equal, the outer one, which is largest, embracing the inner one, three-ribb'd, slightly pointed, the edges purple, the inner valve two-ribb'd, paler, obtuse, and a little shorter, fig. 7.

NECTARY: two very short, broad, truncated, emarginate SCALES, fig. 8.

STAMINA: three capillary FILAMENTS; ANTERÆ forked at each end, and purple, fig. 11.

PISTILLUM: GERMIN very minute, smooth, and somewhat ovate; STYLES two, branched down to the bottom, and purple, fig. 9, 10.

Our readers, on perusing the above description, will quickly perceive, that this grass does not accord, in every respect, with the characters of a *Melica*; it has, in general, too many flowers: yet, as the essential part, the *rudimentum flosculi*, is found in most of the *Spiculæ*, it cannot, perhaps, be more judiciously arranged.

LINNÆUS, at different periods, appears to have entertained a different opinion of it: in his *Flora Lapponica*, he considers it as a *Poa*; in his *Species Plantarum* and *Flora Suecica*, as an *Aira*; and, lastly, in his *Systema Vegetabilium*, makes it a *Melica*.

If the *Spiculæ* be examined when the plant is young, they are certainly very *Poa*-like, being pointed, flattened, and containing usually from three to five flowers; as they advance, their form alters, they become rounder, and more like the flowers of the *Aira aquatica*: if the *rudimentum flosculi* were wanting, it would be difficult to say with which of the two genera it should be placed; that being present, the difficulty vanishes, and we class it at once with the *Melica*.

Two striking peculiarities distinguish this grass: the stalk has only one knot, and that near its base; and not only its stamina, but its stigmata also, are of a deep purple colour.

MERRET's name of *Gramen Spica Lavendulæ*, is very expressive of its appearance when in flower.

It is a very common grass on wet moors and heaths, and flowers from July to the end of September; it is harsh and late, and therefore does not seem at all adapted to agricultural purposes; it varies greatly in size.

Mr. LIGHTFOOT, in his *Flora Scotica*, informs us, that in the Isle of Skye, the fishermen make ropes for their nets of this grass, which they find by experience will bear the water well without rotting. SCHEUCHZER says, that besoms are sometimes made of the straws.



Melica cœrulea.

Poa Aquatica. WATER MEADOW GRASS.

POA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. Spicula ovata: valvulis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *aquatica* panicula diffusa, spiculis sexfloris linearibus. *Linn. Syst. Vegetab. p. 97. Sp. Pl. p. 98. Fl. Suec. n. 26.*

POA altissima, foliis latissimis, panicula amplissima, loculis distichis multifloris. *Haller Hist. n. 1454.*

POA *aquatica*. *Scopoli Fl. Carn. n. 105.*

GRAMEN *aquaticum* paniculatum latifolium. *Bauh. Pin. 3.*

GRAMEN *aquaticum majus*. *Ger. emac. 6. Raii Syn. p. 411. Great Water-Reed-Grass. Hudson Fl. Angl. ed. 2. p. 38.*

RADIX perennis, repens.

CULMUS tripedalis, ad sepedalem, erectus, foliosus, crassitie culmi arundinacei, superne ubi nudus, teres, laevis, subtilissime striatus; geniculis flavescentibus.

FOLIA semunciam aut unciam fere lata, utrinque glabra, tenuissime striata, carinata, carina marginibusque asperis, ad basin folii utrinque macula triangularis flava, vagina glabra, striata, carina prominente, membrana brevis obtusa.

PANICULA maxima, semipedalis, aut pedalis, erecta, ramosissima.

PEDUNCULI subtriquetri, scabri, superne flexuosi.

SPICULÆ lanceolatae, subcompressæ 6—8 floræ, colore ex spadiceo et viridi mixto.

CALYX: *Gluma bivalvis, valvulae membranaceæ, uninerviæ, ovatae, concavæ, interiore breviore et acutiore.*

COROLLA bivalvis, valvulae subæquales, obtusæ, exteriore majore, concava, nervosa, ad basin tuberculata, interiore planiuscula.

STAMINA: FILAMENTA tria, alba, capillaria; ANTHÆ oblongæ, utrinque bifidæ, flavæ aut purpureæ.

PISTILLUM: GERMEN ovatum, glabrum; STYLI duo, superne ramosi, inferne nudi, paulo infra apicem prodeentes.

NECTARIUM: squamula parva truncata ad basin germinis.

SEMEN tectum, hinc convexum, striatum, inde convavum, pallide fuscum.

ROOT perennial, and creeping.

STALK from three to six feet high, upright, leafy, the thickness of a reed straw, on the upper part where it is naked, round, smooth, very finely grooved; the joints yellowish.

LEAVES half an inch and almost an inch broad, smooth on both sides, very finely grooved, keeled, the keel as well as the edges rough, the base of the leaf on each side is marked with a yellow triangular spot, the sheath is smooth and striated, the keel prominent, the membrane short and obtuse.

PANICLE very large, from six inches to a foot in length, upright, very much branched.

FLOWER-STALKS somewhat three-cornered, rough, crooked above.

SPICULÆ lanceolate, somewhat flattened, containing from six to eight flowers, variegated with green and purple.

CALYX: a *Glume* of two valves, the valves membranous, one-ribbed, ovate, concave, the innermost shorter and more pointed than the other.

COROLLA composed of two valves, which are nearly equal, obtuse, the outer one largest, concave, ribbed, with a small tubercle at the base, the inner one nearly flat.

STAMINA: three, white, capillary FILAMENTS; ANTHÆ oblong, bifid at each end, yellow or purple.

PISTILLUM: GERMEN, ovate, smooth; STYLES two, branched above, naked below, proceeding from a little below the top.

NECTARY: a small truncated scale at the base of the germen.

SEED covered, convex and striated on one side, concave on the other, of a pale brown colour.

The *Poa aquatica* is one of the largest as well as the most useful of our grasses; it constitutes a great part of the riches of Cambridgeshire, Lincolnshire, and other counties, where draining the land by means of windmills has taken place; immense tracts of territory that used to be overflowed and produce useless aquatics, but which still retain much moisture, are, by the above process, spontaneously covered with this grass, which not only affords rich pasture for their cattle in the summer, but forms the chief part of their winter fodder.

It has a powerfully creeping root, and bears frequent mowing well (we have known it cut thrice in one season in the vicinity of the Thames); hence it is apt to gain the ascendancy over, rather than be overcome by other plants.

It grows not only in very moist ground, but in the water itself: like the Cats-tails, Burr-reed, and several other plants of that kind, it soon fills up the watery ditches which surround the meadows in which it grows, and occasions them to require frequent cleansing; in this respect it is a formidable plant, even in slow rivers.

In the Isle of Ely, they have a particular method of cleansing the rivers, which are liable to be soon choked up by the Arrow-head, Water-lilies, Reeds, &c. by means of an instrument called a Bear, which is an iron roller, in which a number of pieces of iron, like small spades, are fixed; this is drawn up and down the river by horses, which travel on the banks, and tearing up every plant by the roots, they float and are carried away by the stream.

The *Poa aquatica* not only affords sustenance to cattle, but is a favourite food of the Caterpillar of the Gold-spot Moth (*Phalaena Festucæ*, Linn.) which LINNÆUS describes as feeding on the *Festuca fluitans*; but which feeds with us chiefly on this grass: the Moth proceeding from this larva, is one of the most beautiful which this country produces; the Caterpillar being smooth and of a green colour, is not easily distinguished from the grass on which it feeds; when full-grown, it usually bends down the top of one of the leaves, and underneath it makes a thin spinning, in which it changes to chrysalis; this spinning, from its whiteness, is easily discovered; but we must apprise our readers, that these Caterpillars are not very numerous, and that they will be fortunate if they find one or two after a long search; the Moth, Caterpillar, and Chrysalis, are figured in ALBIN's English Insects; but a much better painting of the Moth may be seen in ROESEL, Tom. 1. Tab. 30. We have generally found them at the commencement of harvest, when the wheat has been in sheaf; the Moth comes forth in a week or two.

We observed in the Isle of Ely, a much larger Caterpillar, when full-grown, nearly the size of the *Pb. Potatoria*, hairy and very beautiful, not uncommon on this grass; but not having the proper convenience for breeding it, we are as yet unacquainted with the Moth it produces, but suspect it will prove a non-descript.

The *Poa aquatica* flowers as late as August and September.



Poa aquatica

13 SHERARDIA ARVENSIS. FIELD SHERARDIA.

SHERARDIA Linn. Gen. Pl. TETRANDRIA MONOGYNIA.

Cor. 1-petala, infundibuliformis. Semina 2, tridentata.

Raii Syn. Gen. 12. HERBÆ STELLATÆ.

SHERARDIA arvensis foliis omnibus verticillatis, floribus terminalibus. Linn. Syst. Veg. p. 125.
Spec. Pl. p. 149. Fl. Suec. n. 120.

SHERARDIA foliis senis lanceolatis, floribus sessilibus umbellatis. Haller Hist. n. 734.

SHERARDIA arvensis. Scopoli Fl. Carn. n. 143.

RUBEOLA arvensis repens cærulea. Bauh. Pin. 334.

RUBIA minor pratensis cærulea. Parkins. p. 276.

RUBEOLA parvo flore cæruleo se spargens. I. B. III. 716. Raii Syn. p. 225. Little Field Madder.
Hudson Fl. Angl. ed. 2. p. 66. Lightfoot Fl. Scot. p. 114.

RADIX annua, fibrosissima, fibrillis rufis.

CAULES palmares, spithamæ et ultra, humifusi, af-
peri, tetragoni.

FOLIA superiora verticillata, sene seu quina, foli-
olis lanceolatis, inferiora numero sensim
decrescunt, et latiora fiunt, infima saepius
terna, ovata, semiverticillata, omnibus mu-
cronatis, superne scabris.

FLORES umbellati, sessiles, parvi, late purpurei.

PEDUNCULI axillares, solitarii, tetragoni, peracta
florescentia longitudine foliorum.

CALYX: INVOLUCRUM octophyllum, foliolis lance-
olatis, carinatis, ciliatis.

CALYX: PERANTHUM parvum, 6-dentatum, supe-
rum, persistens, fig. 1.

COROLLA monopetala, infundibuliformis. Tubus
cylindraceus, longus. Limbus quadripartitus,
planus, laciniis acutis, fig. 2.

STAMINA: FILAMENTA quatuor ad apicem tubi
posita, demissa polline reflexa. ANTHÈRE
simplices, pallide purpureæ, fig. 3.

PISTILLUM: GERMEN didymum, oblongum, infe-
rum, fig. 4. STYLUS filiformis, superne bifidus.
STIGMATA capitata, fig. 5.

PERICARPIUM nullum; fructus oblongus, coronatus,
longitudinaliter in duo semina separabilis.

SEMINA bina, oblonga, apice tribus acuminibus
notata, hinc convexa, inde plana, fig. 6, 7.

ROOT annual, extremely fibrous, the small fibres
reddish brown.

STALKS a hand's breadth, half a foot or more in
length, laying on the ground, rough and
four-cornered.

LEAVES: those on the upper part of the stalk grow-
ing in whirls, five or six together, the leaves
lanceolate, the lower leaves gradually
decreasing in number, and becoming broader,
the lowermost generally growing three toge-
ther, ovate, and forming half a whorl, all of
them terminating in a short point, and rough
on the upper side.

FLOWERS growing in umbels, sessile, small, of a
bright purple colour.

FLOWER-STALKS growing from the alæ of the
leaves, solitary, four-cornered, when the
flowering is over the length of the leaves.

CALYX: an INVOLUCRUM of eight leaves, which
are lanceolate, keeled, and edged with hairs.

CALYX: a small PERANTHUM, having six teeth,
placed on the top of the germen and perma-
nent, fig. 1.

COROLLA monopetalous, funnel-shaped. Tube cy-
lindrical and long. Limb flat, divided into
four sharp segments, fig. 2.

STAMINA: four FILAMENTS placed at the top of the
tube, turning back on the shedding of the pol-
len. ANTHÈRE simple, pale purple, fig. 3.

PISTILLUM: GERMEN double, oblong, beneath the
calyx, fig. 4. STYLE filiform, bifid at top.
STIGMATA forming two small heads, fig. 5.

SEED-VESSEL none; the fruit oblong, crowned,
separable longitudinally into two seeds.

SEEDS two together, oblong, furnished at top with
three points, convex on one side and flat on
the other, fig. 6, 7.

TOURNEFORT considered this plant as a species of *Aparine*. The more accurate DILLENIUS made a new
genus of it, to which he gave the name of his friend and patron, that excellent English Botanist Dr. SHERARD.
Vid. Dill. Nov. Pl. Gen. p. 96.

This small annual is a native of our corn fields, and common almost every where, flowering during the
greatest part of the summer.

There is a neatness in its blossoms almost sufficient to recommend it as an ornamental plant: to any other
use it does not appear to have the least pretensions.



Sherardia arvensis.

J. Murray del. et sculp.



Sagina apetala.

SAGINA APETALA. ANNUAL PEARL-WORT.

SAGINA Lin. Gen. Pl. TETRANDRIA TETRAGYNIA.

Cal. 4-phyllus. Petala 4. Caps. 1-locularis, 4-valvis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAGINA apetala radice annua, caule erectiusculo pubescente.

SAGINA apetala caule erectiusculo pubescente, floribus alternis apetalis. Lin. Mantiss. 559. Syst. Vegetab. p. 142.

SAGINA caulibus erectis, radice annua, floribus apetalis. Ard Spec. 2. p. 22. t. 8. fig. 1.

SAXIFRAGA Anglica Alsinefolia annua. D. Plot Hist. Nat. Oxf. c. 6. § 9. t. 9. f. 7. Raii Syn. p. 345. Annual Pearl-Wort.

ALSINE Saxifraga graminifolia, flosculis tetrapetalis herbidis et muscosis. Pluk. Alm. t. 74. f. 2.

SAGINA procumbens var. β. Hudson Fl. Engl. ed. 2. p. 73.

RADIX annua, fibrofa.

CAULES plures, primo procumbentes, demum erecti, unciales, triunciales et ultra, teretes, filiformes, hispiduli, nodosi.

FOLIA opposita, linearifolium, brevia, mucronata, hispidula.

FLORES alterni, pedunculati.

PEDUNCULI apice primo nutantes, demum erecti, pilis raris vestiti.

CALYX: PERIANTHIUM tetraphyllum subinde pentaphyllum, foliolis ovatis, obtusis, concavis, levibus, peristentibus, marginibus purpurascientibus, fig. 1.

COROLLA: PETALA plerumque quatuor, minutissima, nudo oculo vix conspicua, alba, obcordata, fig. 2.

STAMINA: FILAMENTA quatuor alba, calyce breviora. ANTHÈRE albæ, fig. 3.

PISTILLUM et Capsula ut in Sagina procumbente.

ROOT annual and fibrous.

STALKS several, at first procumbent, afterwards upright, from one to three inches or more in height, round, filiform, somewhat hispid, and jointed.

LEAVES opposite, linear, and somewhat awl-shaped, short, terminated by a fine point, and somewhat hispid.

FLOWERS alternate, and standing on foot-stalks.

FLOWER-STALKS first drooping at top, finally upright, covered with a few hairs.

CALYX: a PERIANTHIUM of four, sometimes five, ovate, obtuse, hollow, smooth, permanent leaves, with purplish edges, fig. 1.

COROLLA: generally composed of four PETALS, which are extremely small, and scarcely visible to the naked eye, white and inversely heart-shaped, fig. 2.

STAMINA: four white FILAMENTS, shorter than the calyx. ANTHÈRE white, fig. 3.

PISTILLUM and Capsule as in the procumbent Pearl-Wort.

Mr. RAY, in his Synopsis, considers this species as distinct from the *procumbens*; and informs us, that it differs from it not only in the colour of its stalks and leaves, which are of a browner hue, but that it has an annual root; and that it does not put forth roots at the joints as the *procumbens* does, he refers to a figure given of it by PLOT, in his Natural History of Oxfordshire.

Notwithstanding RAY's description, and PLOT's figure, LINNÆUS, in his Spec. Plant. considered it only as a variety of the *procumbens*; but afterwards, more fully convinced by the description and figure given of this plant by ARDUINI, an Italian Botanist, he adopts it in his second Mantissa as a species. It appears, by Mr. HUDSON's quotations, that he has been no stranger to the observations of these authors; but, in opposition to them all, he continues it only as a variety.

From a thorough conviction of the propriety of Mr. RAY's conduct in making it a species, we have given a separate figure of it, and shall not only confirm his account, but give a few additional remarks of our own, which we presume may finally settle this matter.

The distinction of an annual and perennial root, though it cannot be admitted, perhaps, in all cases as a specific character, must be allowed to have considerable weight. To ascertain the constancy of this character we have for several years cultivated the two plants close together, on a wall with partitions containing earth; the result has been that the *apetala* has proved as regular an annual as the *Draba verna*, while the *procumbens* has continued green through the winter; and we have no doubt but this always is the case with these plants, when they grow in their natural situations.

The *procumbens* is always procumbent; and when it grows, as it most commonly does, in moist situations, it mats and spreads on the ground. The stalks of the *apetala*, when the plant is young, spread on the ground; but as it advances to maturity they rise up, and, if several grow together, become quite erect. Where the plants grow singly, and in a dry situation, they neither acquire the same height, nor the same degree of uprightnes. Sometimes this species is found on moist shady walls, much taller and more branched than the specimens we have figured; but whether the plants of the *apetala* be small or large, their stalks and leaves are always hairy; while in the *procumbens* they are perfectly smooth, the hairs are visible to the naked eye, and when magnified have no little globules at their extremities, as those of the *Spergula saginoides* have, which comes very near in its appearance to the Pearl-Wort; thus we find these three difficult plants may, with certainty, be distinguished by their stalks alone.

The *apetala* is a smaller plant than the *procumbens*, and much finer in its stalks. Its leaves are also shorter by almost one-half, and less succulent; and these, so far as we have observed, are the chief differences.

From its name one would be led to suppose, that it was perfectly apetalous; and both LINNÆUS and ARDUINI describe it as such. We have generally found it with petals; but so minute, indeed, as almost to require a magnifier to render them visible. These petals we have given a magnified view of, and have represented the plant in the several states in which it is found in dry situations.

Mr. RAY does not appear to have had an idea of its being a common plant, as he mentions the particular spots where it was to be found: with us there is no plant more abundant, especially on walls, in gravel walks, where it is a troublesome weed, and on barren heaths.

It flowers in May and June. There is, perhaps, scarce any plant that is quicker in ripening its seeds.

In our examination of this plant we found the egg of a very small moth glued to an unripe capsule, the seeds of which were probably destined to feed its caterpillar.

POTAMOGETON CRISPUM. CURLED PONDWEED, or GREATER WATER CALTROPS.

POTAMOGETON *Lin. Gen. Pl.* TETRANDRIA TETRAGYNIA.

Cal. o. Petala 4. Stylus o. Sem. 4.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

POTAMOGETON *crispum* foliis lanceolatis alternis oppositis undulatis ferratis. *Lin. Syst. Vegetab.* p. 141. *Sp. Pl. p. 183. Fl. Suec. n. 148.*

POTAMOGETON. *Hall. Hist. n. 848.*

POTAMOGETON *crispum*. *Scopoli Fl. Carn. n. 181.*

POTAMOGETON foliis crispis seu lactuca ranarum. *Baub. Pin. 465.*

POTAMOGETON seu fontinalis crispa. *I. B. III. p. 778.*

TRIBULUS aquaticus minor Quercūs floribus. *Ger. em. 1282.*

TRIBULUS aquaticus minor prior. *Park. 1248. Raii Syn. p. 149. The greater Water Caltrops. Hudson Fl. Angl. p. 75. Lightfoot Fl. Scot. p. 122.*

RADIX perennis, repens.

ROOT perennial and creeping.

CAULES plurimi, variæ longitudinis, fordiste carnei, subdiaphani, compressi, utrinque fulcati, ramosi.

STALKS numerous, of various lengths, of a dirty flesh-colour, somewhat transparent, flattened, with a groove on each side, and branched.

VAGINÆ breves, concolores, vix distinguendæ.

SHEATHS short, of the same colour as the stalks, scarcely to be distinguished.

FOLIA sessilia, lanceolata, obtusa, subdiaphana, crispa, scariofa, nitida, trinervia, ferrulata, inferioribus alternis, superioribus oppositis.

LEAVES sessile, lanceolate, obtuse, somewhat transparent, curled, sonorous to the touch, shining, three-ribbed, sharply and finely serrated, the lower ones alternate, the upper ones opposite.

PEDUNCULI axillares, bi seu triunciales, crassiusculi, subcompressi.

GENERAL FLOWER-STALKS growing from the alæ of the leaves, two or three inches in length, thickish, and somewhat flattened.

FLORES spicati, sex five octo, sessiles.

FLOWERS six or eight, growing in a spike, and sessile.

CALYX nullus.

CALYX wanting.

COROLLA: PETALA quatuor, subrotunda, obtusa, concava, unguiculata, primo erecta, dein patentia, decidua, e fusco viridia, fig. 1.

COROLLA: four PETALS, roundish, obtuse, hollow, connected by a little claw, at first upright, afterwards spreading and deciduous, of a greenish brown colour, fig. 1.

STAMINA: FILAMENTA quatuor, brevissima, vix distinguenda. ANTHÈRE breves, didymæ, albae, fig. 2.

STAMINA: four FILAMENTS, very short, scarcely to be distinguished. ANTHÈRE short, having two separate lobes, of a white colour, fig. 2.

PISTILLUM: GERMINA quatuor, ovato-acuminata. STYLUS nullus. STIGMATA obtula, fig. 3.

PISTILLUM: GERMINA four, ovate, with a long point. STYLE none, STIGMATA obtuse, fig. 3.

SEMINA quatuor, nuda, majuscula, fordiste virentia, utrinque compressa, externe, ad basin denticulata, fig. 4.

SEEDS four, naked, rather large, of a dirty green, flattened on each side, toothed externally at the base, fig. 4.

Most of the plants of this Genus have creeping roots, which penetrating easily through the mud, cause them to spread very fast, so as soon to fill up a pond or slow river, if unmolested.

We have observed, that ducks very readily eat not only the seeds, but the leaves of the present species, which is one of the most common. The introduction of water-fowl may therefore probably prevent this species at least, and perhaps some of the others, from increasing too much.

It flowers in June and July.



Potamogeton crispum.



16

ATROPA BELLADONNA. DWALE, OR DEADLY NIGHTSHADE.

ATROPA *Linn. Gen. Pl. PENTANDRIA MONOGYNIA.*

Cor. campanulata. Stam. distantia. Bacca globosa, 2-locularis.

Raii. Syn. Gen. 16. HERBÆ BACCIFERÆ.

ATROPA *Belladonna* caule herbaceo, foliis ovatis integris. *Linn. Syst. Vegetab. ed. 14. p. 221.*
Sp. Plant. p. 260.

BELLADONNA caule herbaceo, brachiatu, foliis ovato-lanceolatis, integerrimis. *Haller. Hist. n. 579.*

BELLADONNA *trichotoma. Scopoli Fl. Carn. n. 255.*

SOLANUM *melanocerasus. Baub. pin. 166.*

SOLANUM *lethale. Ger. emac. 340. Parkins. 346. Raii Syn. p. 265. Deadly Nightshade,*
Dwale. Hudson Fl. Angl. p. 93. Lightfoot Fl. Scot. p. 144. Jacquin Fl. Austr. t. 309.

RADIX perennis, crassa, albida, ramosa, repens.	ROOT perennial, thick, whitish, branched, and creeping.
CAULES plures, basi digitum crassi, tripedales et ultra, erecti, herbacei, teretes, ramosi, in apricis sordide purpurei, pubescentes.	STALKS several, at bottom the thickness of one's finger, three feet or more high, upright, herbaceous, round, branched, in exposed situations of a dingy purple colour, downy.
FOLIA petiolata, ovata, acuta, integerrima, utrinque laevia, venosa, ad latera caulis ramorumque gemina et magnitudine inæqualia, inter quæ pedunculus uniflorus et saepius solitarius egreditur.	LEAVES standing on footstalks, ovate, pointed, perfectly entire, smooth on both sides, veiny, growing in pairs (but unequal in size) from the sides of the stalks, from betwixt them rises the flower-stalk supporting one flower, and usually single.
PEDUNCULI teretes, viscidii, ad flores paululum incrassati.	FLOWER-STALKS round, viscid, thickened somewhat next the flowers.
FLORES cernui, inodori, sordide purpurei, subviscidii, externe nitidi, venosi.	FLOWERS drooping, scentless, of a dingy purple colour, somewhat viscid, externally glossy and veiny.
CALYX : PERIANTHIUM monophyllum, quinque-partitum, angulatum, laciniis ovato-acuminatis, inæqualibus, viscosis, fig. 1.	CALYX : a PERIANTHIUM of one leaf, deeply divided into five segments, angular, the segments ovato-acuminate, unequal, and viscous, fig. 1.
COROLLA monopetala, campanulata; <i>Tubus brevissimus, albus, subpentagonus; Limbus ventricosus, ovatus, ore quinquefido, patulo, laciniis subæqualibus, fig. 2.</i>	COROLLA monopetalous, bell-shaped; <i>Tube very short, white, slightly five-cornered; Limb bellying out, ovate, mouth spreading, divided into five equal segments, fig. 2.</i>
STAMINA : FILAMENTA quinque, albida, quorum duo paulo breviora, inferne paulo crassiora, pilosa, apice incurva, longitudine tubi; ANTHÈRE magnæ, didymæ, lutescentes, remotæ, fig. 3.	STAMINA : five FILAMENTS, whitish, two of which are a little shorter than the rest, somewhat thickest towards the base, and hairy, bent down at top, the length of the tube; ANTHÈRE large, double, yellowish, and remote, fig. 3.
PISTILLUM : GERMEN semiovatum, utrinque sulcatum, ad basin glandula lutescente cinctum; STYLUS filiformis, staminibus longior, inclinatus; STIGMA capitatum, assurgens, transverso-oblongum, bilabiatum, viride, fig. 4.	PISTILLUM : GERMEN semiovate, with a groove on each side, surrounded at bottom with a yellowish gland: STYLE thread-shaped, longer than the stamens, inclined downwards; STIGMA forming a little head, transversely oblong, two-lip'd, of a green colour, fig. 4.
PERICARPIUM : BACCA atra, nitida, subrotunda, saporis dulcis, bilocularis, fig. 5, 6.	SEED-VESSEL : a black, glossy, roundish BERRY, of a sweet taste, with two cavities, fig. 5, 6.
SEMINA plurima, fusca, irregularia, fig. 7.	SEEDS numerous, brown, and irregular in shape, fig. 7.
Obs. Semina fuscescunt priusquam Bacca nigrescit.	Obs. The seeds turn brown before the Berry becomes black.

The rage for building, joined to the numerous alterations perpetually making in the environs of London, have been the means of extirpating many plants which formerly grew plentifully around us. To this cause we are to attribute the loss of the present plant, which the late Sir WILLIAM WATSON and Mr. STANESBY ALCHORNE of the Tower, gentlemen eminent for their knowledge of British plants, have often assured me grew, within their remembrance, in several places near town: happily we are now under the necessity of going much further into the country, if we wish to see it grow wild. We have frequently noticed it in many of the chalk-pits in Kent, and in both shady and exposed situations elsewhere; in particular, we remember to have seen it growing in great abundance on Keep-Hill, near High Wycomb, Buckinghamshire. Close by the spot where we observed it, there chanced to be a little boy; I asked him, if he knew the plant? He answered "Yes; it was *naughty man's cherries*." I then inquired of him, if he had ever eaten any of the berries? He said he had, with several other children from an adjoining poor-house, and that it made them all very sick, but that none of them had died.

Was not this plant studiously destroyed wherever it is found wild, it would be much more common than it is; for there are few plants to which nature has been so liberal in the means of increase: it has a very large perennial root, which runs deep into the earth, multiplies greatly, and frequently creeps under ground to a great distance; added to this, its berries are very numerous, and contain a prodigious quantity of seeds.

Forbidding

Forbidding as this plant may appear to some, its large glossy berries are certainly a great temptation to children; and, therefore, gentlemen, if they have the plant in their gardens, should never suffer it to ripen its fruit.

It flowers in June and July; its berries are ripe in August and September.

Numerous instances of the pernicious, and even deleterious effects of the deadly Nightshade are on record; among others, such of our readers as are fond of history will not be displeased with the prolixity of the following account taken from BLAIR's *Pharmaco-Botanologia*, p. 81.

"The *Solanum Lethale* seems to produce the same effects with the *Hyoscyamus*, *Cynoglossum*, and other "intense Narcoticks, which usually, before they affect the person with sleep, produce *delirious* and *maniacal* "symptoms; however, it is an *herb* of so pernicious a nature, that scarce any Author who treats of it fails, "from proper observation, or good information, to give dismal instances of its bad effects. *Simon Pauli* "refers us to *Lobelius* his *Adversaria*, and *Bodeus à Stapel*. Mr. *Ray*'s account of what happened to a "Mendicant Friar, upon the taking a glass of the infusion of it in *mallow wine*, gives a good account of the "various symptoms it produces. In a short time, he became *delirious*, after a little (*Cachinne*) a grinning laughter "like the *Rijus Sardonicus* succeeded; after that several irregular motions; and at last a real *madness*, and "such a stupidity as those that are fottishly drunk have: which after all was cured by a draught of vinegar. "Mr. *Miller* mentions several Children at *Croydon*, who not long since were poisoned. Another instance "of its bad effects has fallen under my own observation: two or three persons not far from hence, having "got into a gentleman's garden, were delighted with the black berries of the *Solanum Lethale*, and eat some of "them; it was very pleasant (within a short time after) to see their frantic humours, gestures, and speeches: "but upon their taking of emetics in due time, they were cured. It is worthy of recital what Mr. *Ray* "tells us happened to a *Lady of Quality* of his acquaintance, who having a small ulcer a little below her "eye, which she suspected to be cancerous; she applied a bit of the leaf of this *Solanum*, which so relaxed "the *Tunica Uvea* in one night, that she could not contract the *Pupilla* the next day, so that the *Pupilla* of "the one eye was four times as big as the other; and upon the removal of the leaf, the fibres recovered their "muscular tone by degrees: and, lest this should seem to be merely accidental, she repeated the experiment "three times, at which Mr. *Ray* himself was present.

"But the most memorable instance of the direful effects of this *Plant* is to be seen recorded by the celebrated *Buchanan*, in his *History of Scotland*, by which we may observe how the Almighty God can "convert the most deadly poisons into the fittest antidotes, for those whom he has a mind to preserve. This "obliges me to make a digression, not altogether unsuitable, since it gives the *botanical* description of a "Plant, writ about a hundred and fifty years ago, by one who himself was no professed *Botanist*, the use "made of it, and the wonderful effects it produced,

"In the reign of *Duncan I. King of Scotland* (who was afterwards murdered by *Mackbeth the Tyrant*) "Harold the *Dane* invaded *England*, not long before the days of *King William the Conqueror*: *Sweno*, his "brother, at the same time invaded *Scotland*. Upon his landing in *Fife*, he obtained a signal victory, which "obliged the *King of Scotland*, with the remainder of his routed forces, to retire to *Bertha* (an ancient town "of great note situated on the river *Tay*, which was not long after destroyed by an inundation, and out "of whose ruins the town of *Perth* was built, and now stands upon the same river, two miles nearer the "sea) and pursued them so closely, that he laid siege to the town both by land and water. The *Scots* were "put to great straits, not for want of provisions, but for want of *men* to repel the besiegers. *King Duncan* "was a peaceable unactive man; he had some time before committed the government to the management of "Bancho, of a cunning and subtle wit; and to *Mackbeth*, of a fierce, bold, aspiring spirit. *Mackbeth* "went to the country to raise a reinforcement, while *Bancho* treated with the enemy, and first obtained a "cessation of arms, and then spun out time by framing of articles of peace. The *Danes* wanted provisions, "but abounded with men; the *Scots* abounded in provisions, but wanted men. The truce was equally "acceptable to both, especially to the *Danes*, who for the present expected plenty of all things, and for the "future the conquest of a whole kingdom. Care was immediately taken by the *Scots* to afford them all "manner of liquors, both wine and ale, and they continued to mix with them a good quantity of the "Deadly Nightshade (this *Solanum Lethale*, or *Somniferum*) of which we now treat. The bait took; the "Danes drank plentifully, and were all intoxicated: mad with this poisonous juice, and asleep through "drunkenness, the *Scots* fell upon them, killed the most part, and, with much ado, a few remaining got to "their vessels, while their besotted *King* was carried, like a sack-load, upon a beast down to the river, where "there were scarce sailors enough saved from the slaughter to man the vessels."

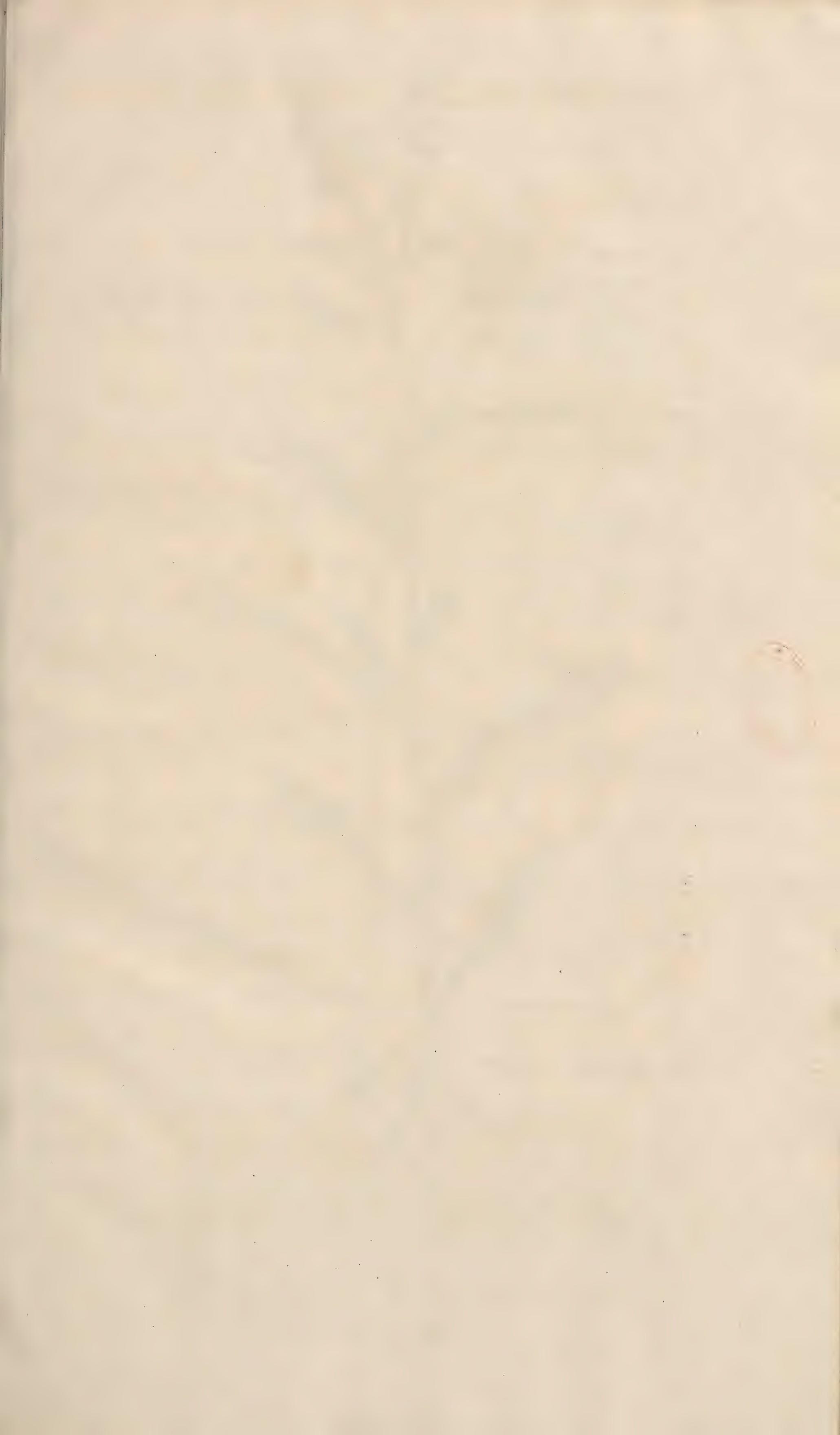
DEERING relates, that a friend of his, a Dr. *MEDLEY*, has several times eaten three or four of the berries, without receiving any hurt: and *HALLER* mentions his having seen a medical student swallow several. It is probable that these berries will not kill, unless many are eaten, but perhaps this poison, like many others, may act differently on different constitutions.

Vinegar has been recommended as an antidote to its poison; but powerful evacuations, particularly vomiting, are most to be depended on. In cases where a poison of this kind is known to have been swallowed, the medical practitioner will be justified in a bold practice, for his patient is not only in a very dangerous situation, but the effect of emetics has been known to be lessened by the poison, so that fourteen grains of Emetick Tartar have been scarcely sufficient to excite vomiting.

Many substances, which in large quantities, or injudiciously administered, have proved poisonous, in small doses, skilfully exhibited, have been found extremely efficacious in the cure of diseases, and hence this, as well as other plants have been tried, particularly in such disorders as have no impression made on them by common remedies; but after numerous trials, there appears but little hopes of success from the *Atropa Belladonna*.

Such as wish to know the particular diseases against which the Deadly and the Garden Nightshades have been directed, with the various symptoms they have produced on being taken, may consult *GATAKER*'s *Observations on the Internal Use of the Nightshade, with the Supplement*; and *BROMFIELD*'s *Account of the English Nightshades, and their Effects*, 1757.

We have seen a goat eat, without injury, the leaves and stalks; and the caterpillar of the *Phalaena Antiqua*, *Roesel* t. 39, and *Braffæcæ Roesel* t. 29, feed on its foliage.



LYCOPSIS ARVENSIS. FIELD, OR SMALL WILD BUGLOSS.

LYCOPSIS. Lin. Gen. Pl. PENTANDRIA MONOGYNIA.
Corolla tubo incurvato.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIÆ.

LYCOPSIS arvensis foliis lanceolatis hispidis, calycibus florescentibus erectis. Lin. Syft. Vegetab. p. 160. Sp. Pl. p. 199. Fl. Suec. n. 167. Fl. Lappon 77.

LYCOPSIS foliis asperimis, undulatis, ferratis, linguiformibus. Hall. Hist. 605.

ECHIUM Fuchsii seu Borago sylvestris. I. B. III. 581.

BUGLOSSUM sylvestre minus. Baub. pin. 256. Parkins. 765. Dillen. Nov. Gen. Tab. 3.

BUGLOSSA sylvestris minor. Ger. emac. 799. Raii Syn. p. 227. Hudson. Fl. Angl. p. 82. Lightfoot Fl. Scot. p. 135.

RADIX annua, simplex, fibrosa, albida.

ROOT annual, simple, fibrous, and whitish.

CAULIS pedalis, et ultra, erectus, subangulosus, hispidus, plerumque superne tantum ramosus.

STALK a foot or more in height, upright, slightly angular, hispid, for the most part branched at top only.

FOLIA alterna, sessilia, lanceolata, obtusiflora, papilloso-hispida, subtus pallidiora, avenia, margine undulata, subrevoluta.

LEAVES alternate, sessile, lanceolate, bluntish, hispid, hairs issuing from small papillæ, palest on the under side, veinless, waved at the edge, and slightly rolled back.

FLORES cærulei, spicati, secundi, sessiles, deorsum spectantes.

FLOWERS blue, growing in spikes, all one way, sessile, and turned backward.

BRACTÆ foliis subsimiles.

FLORAL-LEAVES somewhat like the leaves themselves.

CALYX: PERIANTHIUM quinquepartitum, hispidum, persistens, laciniis oblongis, acutis, longitudine fere corollæ.

CALYX: a PERIANTHIUM deeply divided into five segments, hispid, and permanent; the segments oblong, pointed, and almost the length of the corolla.

COROLLA monopetala, infundibuliformis; *tubus* cylindraceus, curvato-flexus, fig. 2. *limbus* semiquinquefidus, obtusus; *faux clausa squamulis* quinque, pilosus, albis, fig. 3.

COROLLA monopetalous, funnel-shaped; *tube* cylindrical, crooked, fig. 2. *limb* slightly divided into five segments, obtuse; *mouth* closed by five, small, white, hairy scales, fig. 3.

STAMINA: FILAMENTA quinque, minima, ad flexuram tubi corollæ; ANTHÆ parvæ, fuscæ, fig. 4.

STAMINA: five FILAMENTS, very minute, at the curvature of the tube of the corolla; ANTHÆ small and brown, fig. 4.

PISTILLUM: GERMINA quatuor, viridia, glabra; STYLUS filiformis, longitudine staminum; STIGMA obtusum, subbifidum, fig. 5.

PISTILLUM: GERMINA four, green and smooth; STYLE filiform, the length of the stamens; STIGMA obtuse and slightly bifid, fig. 5.

PERICARPIUM nullum, Calyx finu semina fovens, maximus, laciniis conniventibus donec semina nigrescant, deinde patentibus.

SEED-VESSEL none, the Calyx which contains the seed in its bosom, is very large, closing together till the seeds grow black, and then spreading.

SEMINA quatuor, majuscula, nigricantia, reticulato-rugosa, acutiuscula, fig. 6.

SEEDS four, largish, nearly black, with a reticulated or wrinkly surface, and a little pointed, fig. 6.

RECEPTACULUM punctis quatuor fuscis excavatis notatum.

RECEPTACLE marked with four round dots, hollowed out.

The *Lycopsis arvensis* is a very common plant in the corn-fields, especially such as are sandy, and on dry banks, in the neighbourhood of London. We have sometimes seen it so plentiful as to be highly injurious to the husbandman: it may be found in blossom from May to July.

The following account of the medicinal virtues of this plant appeared lately in most of our newspapers: without vouching for the truth of the report, we have thought it our duty to lay it before our readers, with a sincere wish that the herb may prove as efficacious in its application, as is here represented.

" The celebrated M. JEAN FONTANA, Member of the learned academy of Turin, has lately published, for the general good of suffering mankind, a specific remedy against the ANTHRAX, or corrosive ulcer, otherwise called Carbuncle, or Plague-Sore. The curative prescription was communicated to him by the person who has administered it for many years to patients of that description, and with constant success. It consists simply in the use of a field plant, called by Linnæus, LYCOPSIS ARVENSIS. Bruise and pound the plant; lay it on the tumour; fix it there by means of a bandage, and do not touch it before it hath remained twenty-four hours. During the first six or seven hours, the patient will feel a painful and burning heat in the part. It often happens that on taking off the first apparel, the slough gets loose and discovers a wound, which heals in a few days, by applying to it a plaster of the unguent called *Basilicon*. If the case should be otherwise, the first method of cure must be repeated. This second application of the bruised plant, which will not occasion above two hours pain to the patient, will be fully sufficient to remove the slough, and then the use of the above plaster effects a speedy and radical cure."



Lycopsis arvensis.



18

LYSIMACHIA NÉMORUM. WOOD MONEYWORT, OR LOOSESTRIFE.

LYSIMACHIA *Linnæi Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. Caps. globosa, mucronata, 10-valvis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *nemorum foliis ovatis acutis, floribus solitariis, caule procumbente.* *Linn. Syst. Vegetab. p. 165. Sp. Pl. p. 211.*

LYSIMACHIA *caule decumbente, foliis ovato-lanceolatis, petiolis alaribus unifloris.* *Haller Hist. p. 278.*

ANAGALLIS *lutea nemorum.* *Bauhin Pin. p. 252.*

ANAGALLIS *lutea.* *Gerard. emac. 618.*

ANAGALLIS *flore luteo.* *Parkins. 558.*

ANAGALLIS *lutea nummulariæ similis.* *J. Baub. III. 370. Raii Syn. p. 282. Yellow Pimpernel of the Woods. Hudson Fl. Angl. p. 86. Lightfoot Fl. Scot. p. 138.*

RADIX perennis, fibrosa, fibris albidis.

ROOT perennial, fibrous, the fibres whitish.

CAULES plures, decumbentes, teretiusculi, utrinque fulcati, idque alterne, læves, rubentes, ex imo parte radicantes.

STALKS several, decumbent, roundish, with a furrow on each side, and that alternately, smooth, of a red colour, striking root at the base.

FOLIA opposita, petiolata, ovata, acuta, utrinque glabra, subundulata, e flavo-viridia, venis prominulis; petiolis brevibus, latiusculis.

LEAVES opposite, standing on foot-stalks, ovate, pointed, glossy on each side, somewhat waved, of a yellowish-green colour, the veins a little prominent; leaf-stalks short and broadish.

PEDUNCULI axillares, bini five solitarii, teretes, uniflori, tenues, quam folia longiores.

FLOWER-STALKS axillary, growing sometimes in pairs, sometimes singly, round, one-flower'd, slender, and longer than the leaves.

CALYX: PERIANTHIUM quinquepartitum, persistens, laciniis subulatis, subtriangularibus, fig. 1.

CALYX: a PERIANTHIUM deeply divided into five segments, and permanent, the segments awl-shaped, and somewhat triangular, fig. 1.

COROLLA monopetala, flava, *tubus* nullus; *limbus* quinquepartitus, laciniis ovatis, fig. 2, 3. basi saturatus flavis, nitidisque, in fauce corollæ glandulæ flavæ inter filamenta locantur, et margo corollæ glandulis pedicellatis ornatur, fig. 6.

COROLLA monopetalous, yellow, *tube* wanting, the limb divided into five ovate segments, fig. 2, 3. at bottom more intensely yellow and shining, in the mouth of the corolla small yellow glands are observable betwixt the filaments, and the edge of the corolla is ornamented with little glands standing on foot-stalks, fig. 6.

STAMINA: FILAMENTA quinque, lævia erecta, medio paulo crassiora; ANTERÆ oblongæ, incurvatae, fig. 4, 5.

STAMINA: five FILAMENTS, smooth, upright, somewhat thickest in the middle; ANTERÆ oblong, bent a little downwards, fig. 4, 5.

PISTILLUM: GERMEN subrotundum, læve; STYLUS filiformis, apice paulo crassior; STIGMA simplex, fig. 7.

PISTILLUM: GERMEN roundish, smooth; STYLE filiform, somewhat thickest at top; STIGMA simple, fig. 7.

PERICARPIUM: CAPSULA globosa, unilocularis, fig. 8.

SEED-VESSEL: a globular CAPSULE of one cavity, fig. 8.

SEMINA plurima, orbiculata, plana, fig. 9.

SEEDS numerous, round, and flat, fig. 9.

When the blossoms of this plant are expanded, they somewhat resemble those of the common Pimpernel in shape, and hence the older Botanists, who paid little regard to such minute but necessary distinctions, as the hairiness of the Filaments, &c. considered it as an *Anagallis*; LINNÆUS has joined it with the Moneywort, to which, in its general habit, it bears no small affinity, but from which it essentially differs in many particulars; the leaves, for instance, are more pointed, the flowers are smaller, less bell-shaped, and stand on much longer foot-stalks, and the stalks are generally redder.

This species grows in moist woods, and is not uncommon in the neighbourhood of London; in Charlton-Wood it particularly abounds, flowering from June to September.



Lysimachia vulgaris.

19

LYSIMACHIA VULGARIS. YELLOW LOOSE-STRIFE.

LYSIMACHIA *Lin. Gen. Pl. PENTANDRIA MONOGYNIA.*

Cor. rotata. Caps. globosa, mucronata, decemvalvis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *vulgaris* paniculata, racemis terminalibus. *Lin. Syst. Vegetab. p. 165. Sp. Pl. p. 209.*
Fl. Suecic. n. 175.

LYSIMACHIA foliis ovato-lanceolatis, spicis paniculatis. *Hall. Hist. 630.*

LYSIMACHIA *vulgaris. Scopoli Fl. Carn. n. 214.*

LYSIMACHIA lutea. *I. B. II. 901. Ger. emac. 474.*

LYSIMACHIA lutea major quæ Dioscoridis. *Baub. Pin. 245.*

LYSIMACHIA lutea major vulgaris. *Park. 544. Yellow Willow-herb, or Loose-strife. Raii Syn. 282.*
Hudson Fl. Angl. ed. 2. p. 86. Lightfoot Fl. Scot. p. 138.

RADIX perennis, repens.

CAULIS tripedalis et ultra, erectus, ubi folia bina obtuse tetragonos, ubi terna fulcatus, seu angulosus, angulis obtusis; superne hirsutulus, inferne glaber, ramosus, ad genicula paululum incrassatus.

FOLIA bina, seu terna, quaterna et quina etiam observavi, sessilia, ovato-lanceolata, integra, margine inaequali, venosa, nuda.

FLORES paniculati, lutei, racemis terminalibus ex alis foliorum.

PEDUNCULI uniflori, subviscidi, apice incrassati.

CALYX: PERANTHUM monophyllum, quinquepartitum, acutum, erectum, perfistens, laciniis striatis, rubro marginatis, apicibus ante et post florescentiam tortuosus, fig. 1.

COROLLA monopetala, rotata. *Limbus quinquepartitus, laciniis ovatis, acutis, fig. 2.*

STAMINA: FILAMENTA quinque, inaequalia, corolla breviora, subulata, compressa, viscosa, basi conata. ANTHÈRE incubentes, subsagittatae, fig. 3.

PISTILLUM: GERMEN subrotundum. STYLUS filiformis, longitudine flaminum, peracta florescentia elongatus. STIGMA obtusum, fig. 4.

PERICARPIUM: CAPSULA globosa, unilocularis, decemvalvis.

SEMINA plurima, minima.

RECEPTACULUM globosum, maximum.

ROOT perennial and creeping.

STALK three feet or more in height, when the leaves grow in pairs, obtusely four-cornered; when three together, grooved or angular, angles obtuse, the upper part of the stalk slightly hairy, the lower smooth, branched, and a little thickened at the joints.

LEAVES growing in pairs, or three together; I have even noticed them growing four or five together; sessile, ovate, and pointed, entire but not perfectly even on the edges, veiny and destitute of hairs.

FLOWERS yellow, forming a panicle, flower-branched terminal, growing from the alæ of the leaves.

FLOWER-STALKS single-flowered, somewhat viscid, and thickened at the extremity.

CALYX: a PERANTHUM of one leaf, deeply divided into five segments, pointed, upright, and permanent, the segments striated and edged with red, the tips both before and after flowering twisted, fig. 1.

COROLLA monopetalous, wheel-shaped. Limb deeply divided into five segments, which are ovate and pointed, fig. 2.

STAMINA: five FILAMENTS, unequal, shorter than the corolla, tapering, flattened, viscid, growing together at bottom. ANTHÈRE incumbent, somewhat arrow-shaped, fig. 3.

PISTILLUM: GERMEN roundish. STYLE filiform, the length of the stamena, lengthened out as the flowers go off. STIGMA blunt, fig. 4.

SEED-VESSEL: a globular capsule of one cavity, and ten valves.

SEEDS numerous, very minute.

RECEPTACLE globular, and very large.

Some of the ancient writers attributed a very singular property to this plant; no less than a power of taming ferocious, and reconciling discordant animals; and hence they derive its name of *Lysimachia**. Others attribute the origin of its name to the learned and brave LYSIMACHUS, who, they say, was its first discoverer; however this be, our English name of *Loose-strife* appears evidently to be founded on the power thus idly ascribed to it.

This herb, though not so common as its name seems to imply, is tolerably frequent about *London*, in moist meadows, and by water-sides, especially in the environs of the *Thames*.

It varies much in the number of the leaves at the joints, and consequently in the angular appearance of its stalk. The twisted tips of the Calyx, though very remarkable, do not appear to have been noticed by authors.

Such as wish to ornament the edge of a river, or piece of water, cannot select a more proper plant; but its beautiful effect will be heightened by planting with it the *Lythrum Salicaria*; both of these have strong perennial roots, and will also readily grow in gardens where the soil is moist.

It flowers in *July* and *August*.

Some ascribe to it the power of dying green.

* A *pugna dirimenda* for *λύειν τὸν μάχην est certamen dirimire*, of taking away strife or debate between beasts, not only those that are yoked together, but even those that are wild also, by making them tame and quiet, which, as they say, this herb will do, if it be either put about their yokes or their necks, which how true I leave to them who shall try and find it so. *Parkins. p. 544.*

CHENOPODIUM OLIDUM. STINKING BLITE, or ORACH.

CHENOPODIUM *Linn. Gen. Pl. PENTANDRIA DIGYNIA.*

Cal. 5-phyllus, 5-gonus. Cor. 0. Semen 1. lenticulare superum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *Vulvaria foliis integerimis, rhomboideo-ovatis, floribus conglomeratis axillaribus.*
Linn. Syft. Vegetab. p. 216. Sp. Pl. 321. Fl. Suec. 222.

CHENOPODIUM *caule diffuso, foliis obtuse lanceolatis.* *Haller Hist. n. 1577.*

CHENOPODIUM *Vulvaria.* *Scopoli Fl. Carn. n. 281.*

ATRIPLEX *fœtida.* *Bauh. Pin. 119.*

ATRIPLEX *olida.* *Ger. emac. 327.*

ATRIPLEX *sylvestris fœtida.* *Park. 749.*

BLITUM *fœtidum Vulvaria dictum.* *Raii. Syn. p. 156. Stinking Orache.* *Hudson Fl. Engl. ed. 2.*
p. 107. Lightfoot Fl. Scot. p. 149.

Tota planta farina alba pellucida adspersa.

The whole plant sprinkled with a white pellucid meal.

RADIX annua, fibrofa.

ROOT annual and fibrous.

CAULES plures, diffusi, teretes, substriati, nudiusculi.

STALKS numerous, spreading, round, somewhat striated, and thinly beset with leaves.

FOLIA alterna, petiolata, rhomboideo-ovata, integerima.

LEAVES alternate, standing on footstalks, rhomboid-ovate, perfectly entire.

FLORES axillares et terminales, dense glomerati, subspicati.

FLOWERS axillary and terminal, thickly clustered, and somewhat spiked.

FRUCTIFICATIO a reliquis hujus generis vix diversa.

FRUCTIFICATION scarcely different from the rest of this genus.

Fig. 1. exhibet Calycem, Stamina, cum Pistillo.

Fig. 1. exhibits the Calyx, with the Stamina and Pistillum.

Fig. 2. Semen Calyce inclusum.

Fig. 2. The Seed enclosed by the Calyx.

Fig. 3. Semen seorsim. Omnia auct.

Fig. 3. The Seed separate. All magnified.

There is some difficulty in ascertaining several of the plants of this genus, but that difficulty cannot be alledged against the present species, as it is at all times, both fresh and dried, discoverable by its smell alone; the whole plant, if ever so slightly bruised betwixt the thumb and fingers, communicating a very permanently disagreeable odour, resembling, in the opinion of most persons, stale salt fish: it is, moreover, a procumbent plant.

This species is very common in the neighbourhood of London, on dry banks, and at the foot of walls and palings, where it flowers from July to September. LEWIS errs egregiously when he says it naturally delights in moist places.

It is a plant of little consequence, except in a medicinal point of view, and in that its virtues are, perhaps, ill-founded; it retains however a place in the London and Edinburgh Dispensatories.

"Stinking Orache, on account of its strong scent, is reckoned an useful antihysteric; in which intention, some recommend a conserve of the leaves, others a watery infusion, and others a spirituous tincture of them. On some occasions it may, perhaps, be preferable to the fetids, which have been more commonly made use of, as not being accompanied with any pungency or irritation, and seeming to act merely by virtue of its odorous principle." *Lewis's Mat. Med. p. 124.*



Chenopodium obovatum.

SCANDIX PECTEN. SHEPHERD'S NEEDLE, or VENUS'S COMB.

SCANDIX Linn. Gen. Pl. PENTANDRIA DIGYNIA.

*Corolla radiata. Fruetus subulatus. Petala emarginata. Flosculi disci
fæpe masculi.*

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

SCANDIX Peclen seminibus lœvibus rostro longissimo. Linn. Syst. Veget. ed. 14. p. 287. Sp. Pl. p. 368.

MYRRHIS seminis cornu longissimo. Haller Hist. n. 754.

SCANDIX Peclen. Scopoli Fl. Carn. n. 349.

SCANDIX semine rostrato vulgaris. Baub. Pin. 152.

PECTEN VENERIS I. B. III. 2. 71.

PECTEN VENERIS seu scandix. Ger. emac. p. 1040.

SCANDIX vulgaris, seu Peclen Veneris. Park. 916. Raii Syn. p. 207. Shepherd's Needle, or Venus's Comb. Hudson Fl. Angl. ed. 2. p. 123. Lightfoot Fl. Scot. 166. Jacquin Fl. Austr. t. 263.

RADIX annua, simplex, albida, paucis fibrillis instructa.

ROOT annual, simple, whitish, furnished with few fibres.

CAULIS nunc solitarius, nunc plures ex eadem radice, ramosi, diffusi, villosi, semipedales, aut pedales, inferne purpurei, aut lineis purpureis striati, teretes, ad geniculos vix incrassati.

STALK sometimes single, sometimes several from the same root, branched, spreading, villous, half a foot or a foot in height, below purple, or striped with purple lines, round, and scarcely thickened at the joints.

FOLIA dauci instar tenuiter divisa, ad basin vaginata, laciniis linearibus, bifidis trifidisque, acutis, ad lentem rariter ciliatis, fig. 1.

LEAVES finely divided like those of wild carrot, forming a sheath at bottom, segments linear, bifid or trifid, pointed, and, if viewed with a microscope, thinly edged with hairs, fig. 1.

INVOLUCRUM universale nullum.

INVOLUCRUM: general Involucrum wanting.

UMBELLA: universalis plerumque biradiata.

UMBEL: general Umbel usually composed of two radii.

INVOLUCRUM partiale magnum, pentaphyllum, foliolis nervosis, ciliatis, bifidis.

INVOLUCRUM: partial Involucrum large, five-leaved, leaflets ribb'd, edged with hairs, and bifid.

FLORES Umbellulae quinque, ad septem, plerumque fertiles, albæ.

FLOWERS of the small Umbel from five to seven, for the most part fertile and white.

COROLLA: PETALA quinque, obverse ovata, apice inflexa, patentia, exteriore majore, fig. 2.

COROLLA: five PETALS, inversely ovate, bent in at the tip, spreading, the outermost petal largest, fig. 2.

STAMINA: FILAMENTA quinque, alba; ANTHERAÆ primo virescentes, demum nigricantes, fig. 3.

STAMINA five white FILAMENTS; ANTHERAÆ first greenish, finally blackish, fig. 3.

PISTILLUM: GERMEN brevissime pedicellatum, oblongum, hirsutulum; STYLI duo, subulati, erecti, persistentes; STIGMATA simplicia, fig. 4, 5.

PISTILLUM: GERMEN standing on a very short foot-stalk, oblong and slightly hirsute; STYLES two, tapering, upright and permanent; STIGMATA simple, fig. 4, 5.

SEMINA duo, fusca, hinc convexa, striata, inde plana hirsutula, in rostrum longissimum excurrens, fig. 7.

SEEDS two, brown, convex and striated on one side, and flat on the other, slightly hirsute, running out into a very long beak, fig. 7.

NECTARIUM: ad basin stylorum, purpurei coloris, fig. 6.

NECTARY at the base of the styles, of a purple colour, fig. 6.

Common in corn fields, not only in Great-Britain, but in all the southern parts of Europe, sometimes so plentiful, as to prove injurious to the farmer.

Is particularly distinguished from all our other umbelliferous plants by the uncommon length of the beak of the seeds, as well by the singularity of the leaves of the Involucellum, which are uncommonly large and bifid.

Flowers in June, and ripens its seeds in July.

Its seed-leaves, on their first appearance above ground, are uncommonly long.

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Scandix Pecten.

LINUM USITATISSIMUM. COMMON FLAX.

LINUM Linn. Gen. Pl. PENTANDRIA PENTAGYNYIA.

Cal. 5-phyllo. Petala 5. Caps. 5-valvis, 10-locularis. Sem. solitaria.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LINUM usitatissimum calycibus capsulisque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule subsolitario. Linn. Syst. Vegetab. p. 249. Sp. Pl. p. 397.

LINUM arvense. Bauh. Pin. 214.

LINUM sylvestre vulgatius. Park. 1334. Ger. emac. 556. Raii. Syn. p. 362. Manured Flax. Hudson Fl. Angl. ed. 2. p. 133. Lightfoot Fl. Scot. p. 173.

RADIX annua, simplex, fibrofa, pallide fusca.

ROOT annual, simple, fibrous, of a pale brown colour.

CAULIS erectus, sesquipedalis, bipedalis et ultra, teres, glaber, foliosus, superne tantum ramosus.

STALK upright, a foot and a half, two feet high or more, round, smooth, leafy, branched above only.

FOLIA lanceolata, sessilia, conferta, sparsa, suberecta, integerrima, laevia, trinervia.

LEAVES lanceolate, sessile, growing thickly together, without any regular order, almost upright, perfectly entire.

FLORES majusculi, pulchre cærulei, paniculati.

FLOWERS large, of a beautiful blue colour, growing in a panicle.

PEDUNCULI teretes, glabri.

FLOWER-STALKS round and smooth.

CALYX: PERIANTHUM 5-phylum, foliolis ovatis, acuminatis, carinatis, persistentibus, margine membranaceis, ad lentem ciliatis, fig. 1.

CALYX: a PERIANTHUM of five leaves, which are ovate, pointed, keeled, permanent, the edge membranous, and if magnified fringed with hairs, fig. 1.

COROLLA: PETALA 5, cærulecentia, cuneifolia, decidua, venis saturationibus picta, unguibus albis, apicibus suberosis, fig. 2.

COROLLA: 5 blueish, wedge-shaped, deciduous PETALS, streaked with veins of a deeper colour, claws white, tips somewhat gnawed, fig. 2.

STAMINA: FILAMENTA quinque, alba, subulata, basi dilatata. ANTHÈRE primo oblongæ, demum sagittatæ, fig. 3. incumbentes, cæruleæ, ad stylos inclinatæ et subcoadunatæ, fig. 3, 4.

STAMINA: five white tapering FILAMENTS, dilated at the base. ANTHÈRE at first oblong, finally arrow-shaped, fig. 3. incumbent, of a blue colour, inclined to the styles, and somewhat united, fig. 3, 4.

PISTILLUM: GERMEN ovatum, nitidum. STYL quinque, longitudine filamentorum, sub-clavati, cærulecentes, apice, leviter cohærentes. STIGMATA simplicia, fig. 5.

PISTILLUM: GERMEN ovate, shining. STYLES five, the length of the filaments, somewhat club-shaped, blueish, slightly cohering. STIGMATA simple, fig. 5.

PERICARPIUM: CAPSULA globosa, subangulata, mucronata, decemlocularis, quinquevalvis, fig. 6.

SEED-VESSEL: a globular, somewhat angular and pointed CAPSULE, having ten cavities, and five valves, fig. 6.

SEMINA in singulo loculamento solitaria, ovato-acuta, compressa, nitida, fig. 7.

SEEDS one in each cavity, ovate, pointed, flat and glossy, fig. 7.

It may be doubted, perhaps, whether the common flax, found in any part of the kingdom, may not originally have been introduced from abroad; yet Mr. HUDSON speaks of it as a common plant in Dorsetshire and Devonshire, and entertains no idea of its being a doubtful native. However this may be, the few specimens of it which we find occasionally in corn fields and among rubbish, particularly in the neighbourhood of Battersea (for flax is not cultivated near London) have doubtless been introduced there with the produce of the garden or the corn field.

It flowers in June and July.

In the earliest record we have, flax is mentioned as a plant cultivated in Egypt (Exodus ch. ix. v. 31.); for which reason antiquaries have been surprised to find the vestments of mummies made of cotton. It is highly probable, however, that mankind made thread of cotton before the use of flax was discovered; for cotton is produced in a state ready for spinning, whereas flax requires a long process before it can be brought to that state.

In the simplicity of former times, when families in this island provided within themselves most of the necessities and conveniences of life, every garden supplied a proper quantity of hemp and flax; but the macerating or steeping, which was necessary to separate the thread by rotting the stalk, was in many places found to render the water so offensive and detrimental, that in the reign of Henry VIII. a law was made that "No person shall water any hemp or flax in any river, running water, stream, brook, or other common pond, where beasts are used to be watered, on pain of forfeiting, for every time so doing, twenty shillings. 33 Hen. VIII. c. 17. § 1. Might not this inconvenience be prevented, and the process much accelerated, by using boiling water, and a proper quantity of the ashes of any vegetable?

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Linum usitatissimum.

The wisdom of Parliament hath lately thought proper to encourage, by a premium, the growth of hemp and flax in this kingdom, certainly with a very laudable intention, as long as we procure these articles from countries where the balance of trade is against us; or, in other words, while we continue to pay for them in money, and not with our manufactures. The premium is four pence for every fourteen pounds of flax.

The ancients were of opinion, that flax impoverished land. "Urit enim lini campum seges." *Virg. G. I. v. 77.* But, while speculative and practical cultivators unfortunately continue to be such very distinct people, the rules which we find in books cannot be much depended on. However, it may be a caution to those who have not a plentiful command of manure not to engage too largely with this plant without proper trials. As flax will be new to most of the land in the kingdom, there is little doubt but that the produce will at first be large, and it is very desirable to introduce a new kind of grain into husbandry to extend the succession of crops.

"For the vicissitudes of various grain.
"Tend to preserve the vigour of the plain."

Flax not only supplies us with clothing, but its seeds, well known by the name of linseed, afford an oil of great use in painting, varnishing, &c. They are also used medicinally. Infusions of linseed, like other mucilaginous liquors, are used as emollients, incrassants, and obtunders of acrimony, in heat of urine, stranguries, thin fluxions on the lungs, and other like disorders. A spoonful of the seeds, unbruised, is sufficient for a quart of water, larger proportions rendering the liquor disagreeably slimy. The mucilage obtained by insipidating the infusions or decoctions is an excellent addition for reducing disgusting powders into the form of an electuary, occasioning the compound to pass the fauces freely, without sticking or discovering its taste in the mouth. The expressed oil is supposed to be more of a healing and balsamic nature than the other oils of this class, and has been particularly recommended in coughs, spitting of blood, cholics, and constipations of the belly. The seeds in substance, or the matter remaining after the expression of the oil, are employed externally in emollient and maturing cataplasms. In some places these seeds in times of scarcity have supplied the place of grain, but appeared to be an unwholesome as well as unpalatable food. *Tragus* relates, that those who fed on them in Zealand had the hypochondres in a short time distended, and the face and other parts swelled: and that not a few died of these complaints.

The following reflections communicated to me by a friend will, I flatter myself, not be unacceptable to my readers. Should practice justify the theory, I will venture to say, they will be golden reflections to the nation.

Some Reflections relative to the Watering of Flax by a new Method, so as to shorten Labour, add to the Strength of the Flax, and give it a much finer Colour, which would render the Operation of Bleaching safer and less tedious.

THOUGH the following reflections have for their object an improvement in the very essential article of watering of flax, yet I must advertise my reader, that they are only theory, and must depend entirely for their truth and justification upon future experiments, skilfully and judiciously made. Should repeated trials prove the advantage of the method proposed, we may venture to affirm, it would be an improvement that would increase the national income in the agricultural branch many thousand pounds annually, would add greatly to the perfection of the linen manufacture, and over and above would suppress a very disagreeable nuisance, which the present method of watering flax occasions during some part of the summer in every flax-growing country.

The intention of watering flax is, in my opinion, to make the boon more brittle or friable, and by soaking to dissolve that gluey kind of sap that makes the bark of plants and trees adhere, in a small degree, to the woody part. The bark is called the harle, and produces the flax; the useless woody part, which remains when the bark is separated, the boon. To effect this separation easily, the practice has long prevailed of soaking the flax in water to a certain degree of fermentation, and afterwards drying it. For this soaking some prefer rivulets that have a small current, and others stagnant water in ponds and lakes. In both these ways the water acts as in all other cases of infusion and maceration. After two or three weeks it extracts a great many juices of a very strong quality, which in ponds give the water an inky tinge and offensive smell, and in rivulets mix in the stream, and kill the fish.

Nay, if this maceration is too long continued, the extracted and fermented sap will completely kill the flax itself: for if, instead of two or three weeks, the new flax were to lay soaking in the water four or five months, I presume it would be good for nothing but to be thrown upon the dunghill. Both harle and boon would in that time be completely rotted; yet the harle or flax, when entirely freed from this sap, and manufactured into linen or into ropes, might be many months under water without being much damaged. As linen, it may be washed, steeped, and boiled in scalding water twenty times, without losing much of its strength: and as paper, it acquires a kind of incorruptibility.

It appears then essential to the right management of new flax, to get rid of this pernicious vegetative sap and to macerate the boon; but from the complaints made against both the methods of watering now in use, there is reason to think, that there is still great room for improvement in that article. In rivulets, the vegetative sap, as it is dissolved, is carried off by the current, to the destruction of the fish. This prevents the flax from being stained; but the operation is tedious, and, I have been told, often not complete, from the uncertainty of knowing the precise times when it is just enough, and not too much, or perhaps from neglect. In ponds, the inky tinge of the water often serves as a kind of dye to the flax, which imbibes it so strongly, that double the labour in bleaching will hardly bring the linen made of such flax to an equality in whiteness with linen made with flax untinged. This seems to be equally unwise, as though we were to dye cotton black first, as a means to whiten it afterwards. These ponds besides become a great nuisance to the neighbourhood: the impregnated water is often of such a pernicious quality, that cattle, however thirsty, will not drink of it, and the effluvia of it may perhaps be nearly as infectious as it is offensive. If this effluvia is really attended with any contagious effects in our cold climates, a thing worth inquiring into, how much more pernicious must its effects have been in the hot climate of Egypt, a country early noted for its great cultivation of flax!

From these considerations I have been led to think, that the process of watering might be greatly improved and shortened by plunging the new flax, after it is rippled, into scalding water, which, in regard to extracting the vegetative sap, would do in five minutes more than cold water would do in a fortnight, or perhaps more than

than cold water could do at all, in respect to the clearing the plant of the sap. Rough almonds, when thrown into scalding water, are blanched in an instant; but perhaps a fortnight macerating those almonds in cold water would not make them part so easily with their skins, which are the same to them as the harle to the flax. Were tea leaves to be infused in cold water a fortnight, perhaps the tea produced by that infusion would not be so good to the taste, nor so strongly tinged to the eye, as what is effected by scalding water in five minutes. By the same analogy, I think, flax, or any small twig, would be made to part with its bark much easier and quicker, by being dipped in boiling water, than by being steeped in cold water. This reflection opens a door for a great variety of new experiments in regard to flax. I would therefore recommend to gentlemen cultivators and farmers to make repeated trials upon this new system, which would soon ascertain whether it ought to be adopted in practice or rejected. One thing, I think, we may be certain of, that, if the Egyptians watered their flax in our common manner, they undoubtedly watered it in very warm water, from the great heat of their climate, which probably might make them neglect to think of water heated by any other means than that of the sun. A good general practice can only be established upon repeated trials; but, I am persuaded, many lose half the value of their crop by some of the present methods of watering it. Though one experiment may fail, another with a little variation may succeed, and the importance of the object desired to be obtained will justify a good degree of perseverance in the prosecution of the means. In this view, as the Chinese thread is said to be very strong, it would be worth while to be acquainted with the practice of that distant nation in regard to the rearing and manufacturing of flax, as well as with the methods used by the Flemings and the Dutch.

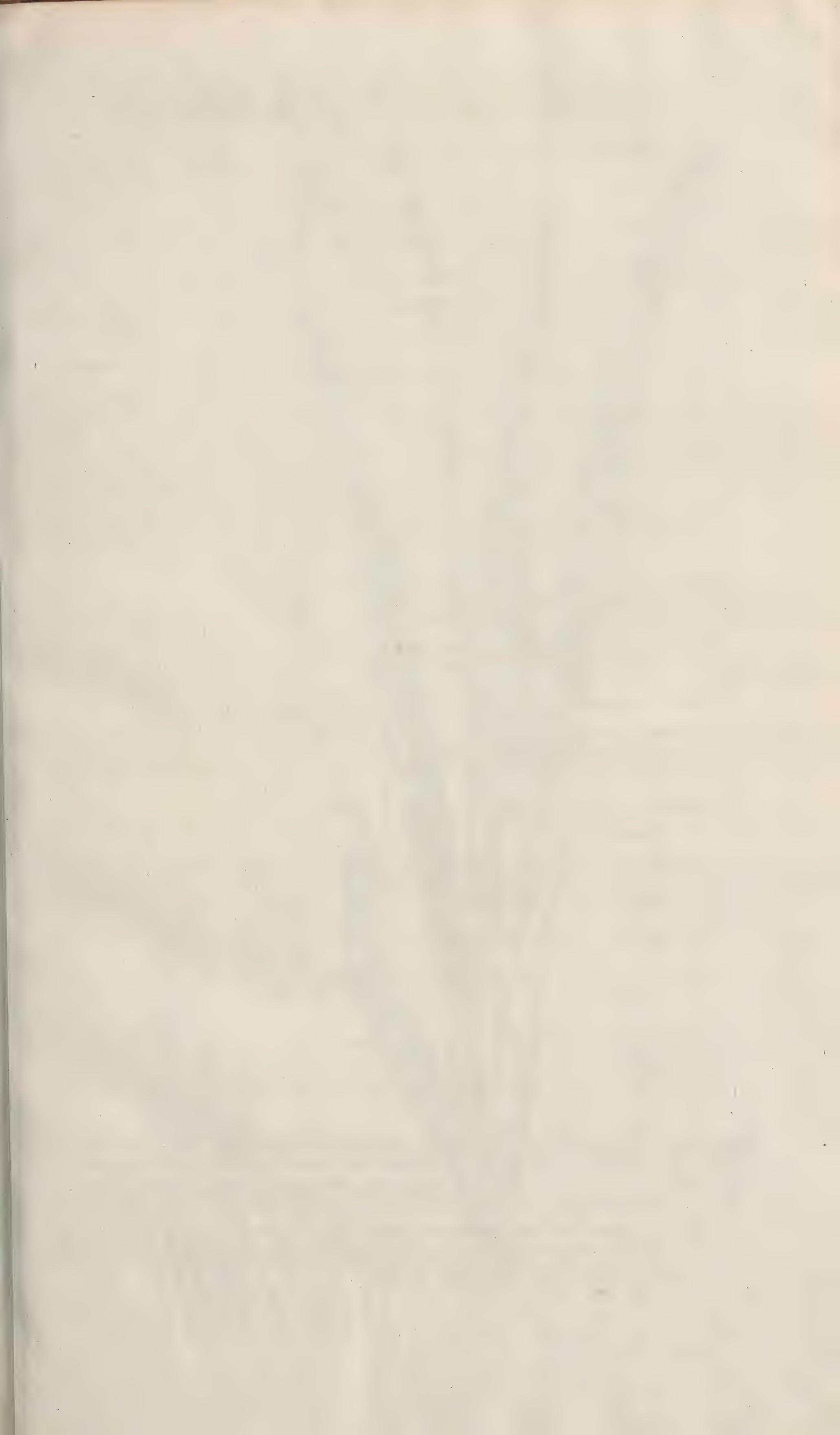
Boiling water perhaps might at once clear the new flax from many impurities, which, when not removed till spun into yarn, are then removed with difficulty, and loss of substance to the yarn. Why should not the longitudinal fibres of the flax, before they be spun into yarn, be made not only as fine but as clean as possible? Upon the new system proposed, the act of bleaching would begin immediately after the rippling of the flax; and a little done then might save much of what is generally done after the spinning and weaving. To spin dirty flax, with a view of cleaning it afterwards, appears to be the same impropriety as though we were to reserve part of the dressing given to leather till after it is made into a glove.

Should the plunging the flax into the boiling water not suffice to make the boon brittle enough, as I am inclined to think it would not, then the common watering might be added; but, in this case, probably half the time usually given to the watering would suffice, and the flax might then be laid in clear rivulets, without any apprehensions of its infecting the water and poisoning the fish, or of being discoloured itself; for the boiling water into which it had been previously put would have extracted all the poisonous vegetative sap, which, I presume, is what chiefly discolours the flax, or kills the fish.

On the supposition that boiling water, in the preparation of flax, may be found to be advantageous and profitable, I can recollect at present but one objection against it being generally adopted. Every flax-grower, it may be said, could not be expected to have conveniences for boiling water sufficient for the purpose, the consumption of water would be great, and some additional expence would be incurred. In answer to this I shall only observe, that I presume any additional expence would be more than reimbursed by the better marketable price of the flax; for otherwise any new improvement, if it will not quit cost, must be dropped, were it even the searching after gold. In a large cauldron a great deal of flax might be dipped in the same water, and the consumption perhaps would not be more than a quart to each sheaf: even a large household pot would be capable of containing one sheaf after another; and I believe the whole objection would be obviated, were the practice to prevail with us, as in Flanders and Holland, that the flax-grower and the flax-dresser should be two distinct professions.

I shall conclude with recommending to those who are inclined to make experiments, not to be discouraged by the failure of one or two trials. Perhaps the flax, instead of being just plunged into the scalding water, ought to be kept in it five minutes; perhaps a quarter of an hour; perhaps a whole hour. Should five minutes, or a quarter of an hour, or an hour, not be sufficient to make the boon and harle easily separate, it might perhaps be found expedient to boil the flax for more than an hour; and such boiling, when in this state, might in return save several hours boiling in the article of bleaching. It is not, I think, at all probable, that the boiling of the flax with the boon in it would prejudice the harle; for, in the course of its future existence, it is made to be exposed twenty or forty times to this boiling trial, and, if not detrimental in the one case, it is to be presumed it would not be detrimental in the other. Perhaps after the boiling it would be proper to pile up the flax in one heap for a whole day, or half a day, to occasion some fermentation, or perhaps, immediately after the boiling, it might be proper to wash it in cold water. The great object, when the flax is pulled, is to get the harle from the boon with as little loss and damage as possible; and if this is accomplished in a more complete manner than usual, considerable labour and expence will be saved in the future manufacturing of the flax. On this account, I think, much more would be gained than lost, were the two or three last inches of the roots of the flax to be chopped off, or clipped off, previous to its being either watered or boiled.

The following precaution is necessary to be observed, that the flax should never be spread out to dry at a season when it may be in danger of being exposed to the frost.



LEUCOJUM ÆSTIVUM. SUMMER SNOWFLAKE.

LEUCOJUM Linn. Gen. Pl. HEXANDRIA MONOGYNIA.

Cor. campaniformis, 6-partita, apicibus incrassata. Stigma simplex.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

LEUCOJUM *æstivum* spatha multiflora, stylo clavato. Linn. Syst. Vegetab. p. 316. Sp. Pl. p. 414.
Jacquin Fl. Austr. t. 203. v. 4.

LEUCOJUM *æstivum*. Scopoli Fl. Carn. n. 393.

LEUCOJUM bulbosum majus f multiflorum. Baub. Pin. 55.

LEUCOJUM bulbosum ferotinum majus 1. Clus. Hist. 1. p. 170.

LEUCOION bulbosum polyanthemum. Dodon. Stirp. Hist. p. 230. The great late-flowering
Bulbous Violet. Park. Parad. p. 110.

RADIX: *Bulbus* magnitudine nucis castaneæ, sub-ovatus, extus pallide fuscus, intus albus, tunicatus, lamellis plurimis tenuibus, dense compactis.

FOLIA plurima, sesquipedalia, erecta, sublinearia, saturate viridia, unciam fere lata, obtusa, superne plana, inferne leviter carinata, carina obtusa, exteriora breviora.

SCAPUS foliis paulo altior, multiflorus, fistulosus, subcompresso, anceps, subtortuosus, uno latere nonnunquam obtuso, altero acuto.

PEDUNCULI plerumque quinque ex eadem spatha, uniflori, angulati, longitudine inæquales.

FLORES albi, penduli, secundi, vix odori.

COROLLA campaniformi-patens, Petala sex, ovata, alba, intus striata, basi minime cohærentia, apicibus crassiusculis, strictioribus, macula viridi insignitis.

STAMINA: FILAMENTA sex, alba, filiformia: ANTHÆ oblongæ, subquadrangleares, erectæ, luteæ, apice poris duobus dehiscentes, fig. 1, 2.

PISTILLUM: GERMEN subovatum, inferum: STYLUS albus, staminibus paulo longior, inferne attenuatus, superne virescens: STIGMA breve, setaceum, erectum, acutum, fig. 3.

PERICARPIUM: CAPSULA subpyriformis, membranacea, trilocularis, trivalvis, fig. 4.

SEMINA plura, majuscula, subrotunda, atra, nitentia, fig. 5.

ROOT: a *Bulb* the size of a chesnut, somewhat ovate, externally of a pale brown colour, internally white, coated, the coats numerous, thin, and closely compacted.

LEAVES numerous, about a foot and a half in length, upright, nearly linear, of a deep green colour, almost an inch in breadth, obtuse, above flat, beneath slightly keeled, the keel obtuse, the lowermost leaves shortest.

STALK a little higher than the leaves, supporting many flowers, hollow, slightly flattened, two-edged, a little twisted, one side sometimes obtuse, the other acute.

FLOWER-STALKS for the most part five proceeding from the same sheath, each supporting a single flower, angular, and of unequal lengths.

FLOWERS white, pendulous, growing all one way, with little scent.

COROLLA somewhat bell-shaped, spreading, Petals six, ovate, white, finely grooved within side, not at all uniting at bottom, tips thickish, a little puckered, and marked with a green spot.

STAMINA six white, thread-shaped FILAMENTS: ANTHÆ oblong, somewhat quadrangular, upright, yellow, each cell open at top, fig. 1, 2.

PISTILLUM: GERMEN somewhat ovate, beneath: STYLE white, a little longer than the stamina, tapering downwards, above greenish: STIGMA like a small, short, upright, pointed bristle, fig. 3.

SEED-VESSEL: a CAPSULE somewhat pear-shaped, membranous, having three cavities and three valves, fig. 4.

SEEDS several, somewhat large, nearly round, black, and glossy, fig. 5.

Flowers about the middle of May.

Is found, undoubtedly wild, betwixt Greenwich and Woolwich, about half a mile below the former, close by the Thames side, just above high-water mark, growing (where no garden, in all probability, could ever have existed) with *Arundo Phragmites*, *Caltha palustris*, *Oenanthe crocata*, and *Angelica sylvestris*: Prof. JACQUIN, who figures it in the *Flora Austriana*, and SCOPOLI, in his *Flora Carniolica*, describe it as growing in similar situations; their words are, *crescit in pratis uidis et subpalustribus*. It has also been found in the Isle of Dogs, which is the opposite shore.

How so ornamental a plant, growing in so public a place, could have escaped the prying eyes of the many Botanists who have resided in London for such a length of time, seems strange: for my own part, I am perfectly satisfied of its being a native of our island, and have no doubt but it will be found in many other parts of it.

The figure we have given, was drawn on the spot above described, where it grows more luxuriantly than we usually see it in gardens; the reason of which is, that in gardens it seldom has a soil or situation sufficiently moist.

The older Botanists, and even TOURNEFORT, united it with the Snowdrop; and in our gardens it is generally known by the name of the great Summer Snowdrop; but as it differs very essentially in its fructification from the *Galanthus*, we have thought it necessary to give it the new English name of *Snowflake*, to correspond in some degree with the Linnæan generic name *Leucojum*.



Leucojum aestivum



Convallaria majalis.

CONVALLARIA MAJALIS. LILY OF THE VALLEY.

CONVALLARIA Linn. Gen. Pl. HEXANDRIA MONOGYNIA.

Cor. sexfida. Bacca maculosa 3-locularis.

Raii Syn. Gen. 16. HERBÆ BACCIFERÆ.

CONVALLARIA *majalis* scapo nudo. Linn. Syst. Vegetab. p. 275. Spec. Plant. p. 451. Flor. Suec. n. 292.

POLYGONATUM scapo diphylo, floribus spicatis, nutantibus, campaniformibus. Haller Hist. n. 1241.

CONVALLARIA *majalis*. Scopoli Fl. Carn. n. 418.

LILIUM convallium album. Bauh. Pin. p. 304.

LILIUM convallium. Ger. emac. p. 410. flore albo, Parkins. Parad. p. 349. Raii Syn. p. 264. Lily-convally or May Lily. Hudson Fl. Angl. ed. 2. p. 146. Lightfoot Fl. Scot. p. 182.

RADIX perennis, fibrosa, fibris plurimis, teretibus, transversim rugosis, horizontaliter paulo infra terram in longum extensis, repentibus.

SQUAMÆ quatuor, vel quinque, subnervosæ, purpurecentes, alternæ, basi foliorum et scapi obvestiunt et colligant.

FOLIA bina, petiolata, ovata, utrinque acuta, erecta, lævia, nervosa, altero plerumque majori, læte viridia, petiolis teretibus, exteriore punctis rubris adsperso, tubulo ad recipiendum interiore solidum.

SCAPUS lateralis, longitudine foliorum, erectus, nudus, lævis, semicylindraceus.

BRACTÆA lanceolata, membranacea, sub singulo pedunculo, pedunculo brevior.

FLORES sex, five octo, racemosi, nutantes, albi seu lutescentes, odorati.

PEDUNCULI uniflori, teretes, filiformes.

CALYX nullus.

COROLLA monopetala, globo-campanulata. *Limbus* sexfidus, laciniis obtusiusculis, reflexis, fig. 1.

STAMINA: FILAMENTA sex, subulata, petalo inserta, corolla breviora. ANTHÈRÆ oblongæ, erectæ, bilocularis, flavæ, longitudine filamentorum, fig. 2.

PISTILLUM: GERMEN subrotundum, viride. STYLUS filiformis, staminibus longior. STIGMA obtusum, trigonum, fig. 3.

PERICARPIUM: BACCA globosa, majuscula, rubra, trilocularis, polysperma, fig. 4.

SEMINA quinque et ultra, majuscula, lutescentia, hinc convexa, inde plana seu angulata, fig. 5, 6.

ROOT perennial, fibrous, fibres numerous, round, transversely wrinkled, extending horizontally just below the surface of the earth, and creeping to a considerable distance.

SCALES four or five slightly ribbed, purplish, alternate scales surround and bind together the base of the leaves and stalk.

LEAVES growing two together, standing on foot-stalks, pointed at each end, upright, smooth, ribbed, one generally larger than the other, of a bright green colour, foot-stalks round, the outermost dotted with red, and tubular to receive the inner one which is solid.

STALK lateral, the length of the leaves, upright, naked, smooth, semicylindrical.

FLORAL-LEAF lanceolate, membranous, under each flower stalk, shorter than the flower-stalk.

FLOWERS six or eight, growing in a racemus, hanging down, white or yellowish, and sweet-scented.

FLOWER-STALKS one flowered, round, and filiform.

CALYX wanting.

COROLLA monopetalous, roundish, bell-shaped. The *Limb* divided into six obtuse reflexed segments, fig. 1.

STAMINA: fix FILAMENTS tapering, inserted into the petal, and shorter than the corolla. ANTHERÆ oblong, upright, bilocular, yellow, the length of the filaments, fig. 2.

PISTILLUM: GERMEN roundish, green. STYLE filiform, longer than the stamens. STIGMA obtuse, and three-cornered, fig. 3.

SEED-VESSEL: a round, largish, red BERRY, having three cavities, and containing many seeds, fig. 4.

SEEDS five and more, largish, yellowish, convex on one side, and flat or angular on the other, fig. 5, 6.

LINNÆUS, in his *Flora Lapponica*, p. 80. gives his reasons at large for uniting in one genus the *Lilium Convallium*, the *Polygonatum*, and *Unifolium*, and for adopting the name *Convallaria*.

The Lily of the Valley claims our notice as an ornamental and a medicinal plant. As an ornamental one, few are held in greater estimation: indeed, few are the flowers which can boast such delicacy with such fragrance; fortunately it is most easy of cultivation, requiring only to be placed in the shady part of a garden, and to be transplanted now and then, when the roots are too much matted together to produce flowers freely. It bears forcing admirably in pots, and hence the curious may have it in blossom at least two months in the year.

There is a variety of it with reddish flowers and double blossoms. In its wild state it is seldom seen in berry; but produces them readily when cultivated. Like many of those plants which are eagerly sought after it is now become rather scarce in the neighbourhood of London. In Mr. RAY's time it grew plentifully on Hampstead Heath, but is now sparingly found there. In Lord Mansfield's wood, near the Spaniard, it may be met with in greater abundance; nor is it uncommon in the woods about Dulwich. It flowers in May and June.

The flowers readily impart their fragrance, as well as a penetrating bitterish taste, both to watery and spirituous menstrua. Their odorous matter, like that of the white Lily, is very volatile, being totally dissipated in exsiccation, and elevated in distillation; nor does the distilled spirit turn milky on the admixture of water, as those spirits do which are impregnated with actual oil. The pungency and bitterness, on the other hand, reside in a fixed matter, which remains entire both in the watery and spirituous extracts, and which in this concentrated state approaches, as CARTHÉUSER observes, to hepatic Aloes.

It is principally from the volatile parts of these flowers, that medicinal virtues have been expected in nervous and catarrhous disorders: but probably their fixt parts also, which have no smell, have perhaps the greatest share in their efficacy. The flowers, dried and powdered, and thus divested of their odoriferous principle, prove strongly sternutatory. Watery or spirituous extracts made from them, given in doses of a scruple or half a dram, act as gentle stimulating aperients and laxatives, and seem to partake of the purgative virtue as well as of the bitterness of Aloes.

The roots possess a greater degree of bitterness, and a similar purgative quality. *Lewis's Mat. Med.*

JUNCUS PILOSUS. SMALL HAIRY WOOD-RUSH.

JUNCUS Linn. Gen. Pl. HEXANDRIA MONOGYNIA.

Cal. 6-phyllus. Cor. o. Caps. 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS pilosus foliis planis pilosis, corymbo ramoso. Linn. Syst. Vegetab. p. 280. Sp. Pl. 468. Fl. Suec. 308.

JUNCUS foliis planis, hirsutus, floribus umbellatis, solitariis, petiolatis, aristatis. Haller Hist. n. 1325.

JUNCUS pilosus. Scopoli Fl. Carn. n. 435.

GRAMEN nemorosum hirsutum latifolium minus. Baubin Pin. 7.

GRAMEN nemorosum hirsutum. Ger. emac. 19. majus Park. 1184.

GRAMEN nemorosum hirsutum vulgare. Raii Syn. p. 416. Small hairy Wood-Rush. Hudson Fl. Angl. p. 151. Lightfoot Fl. Scot. p. 186.

RADIX perennis, fibrosa, fibris numerosis, fuscis, stolonibus brevibus acutis quoque instruitur, ita ut subrepens dici potest.

CULMI plures, ex eadem radice, spithamæ et ultra, suberecti, foliosi, superne nudi, simplices, laeves, striati, teretes, tribus aut quatuor geniculis minime protuberantibus instructi.

FOLIA radicalia plurima, tres quatuorve uncias longa, lineas tres, tresque cum dimidiâ lata, ad basin paulo angustiora, parum concava, superne obscure plerumque virentia et laevia glabraque, inferne dilutius virentia et glabra, ad margines autem, raris et longis pilis villosa, densius autem hirsuta sunt versus eorum origines, saepe rubentia, apice obtusiuscula et subtruncata, caulina plana.

FLORES paniculati, panicula diffusa.

PEDUNCULI inæquales, pauci simplices, plures prolieri, dichotomi et trichotomi, demum retro porrecti, omnes uniflori, flosculis intermediis sessilibus.

CALYX Gluma bivalvis, fig. 1. Perianthium hexaphyllum, foliolis oblongis, acuminatis, carinatis, concavis, ex purpureo fuscis, perfunditibus, fig. 2. auct.

COROLLA nulla.

STAMINA: FILAMENTA sex, capillaria, brevissima, ANTERÆ oblongæ, erectæ, flavæ, fig. 3.

PISTILLUM: GERMEN triquetrum, acuminatum; STYLUS brevis, filiformis; STIGMATA tria, longa, filiformia, villosa, fig. 4.

ROOT perennial, and fibrous, fibres numerous and brown, it is also furnished with short pointed shoots, so that it may be called somewhat creeping.

STALKS many from the same root, about a span in length, sometimes more, nearly upright, leafy, naked above, simple, smooth, striated, round, furnished with three or four joints, which do not protuberate.

LEAVES next the root numerous, three or four inches long, and three lines or three and a half broad, somewhat narrowest at the base, a little concave, above generally of a dull green colour, smooth and rather glossy, beneath of a paler green, and slightly glossy, at the edges especially, covered with a few long hairs, which are most numerous towards the base of the leaf, often of a reddish colour, a little blunt and as it were cut off at the point, the stalk leaves flat.

FLOWERS forming a spreading panicle.

FLOWER-STALKS of unequal lengths, a few of them simple, most of them proliferous, dichotomous or trichotomous, finally stretcht out backward, all of them supporting a single flower, the intermediate ones sessile.

CALYX: a Glume of two valves, fig. 1. a Perianthium of six leaves, which are oblong, pointed, keel'd, concave, of a purplish brown colour and permanent, fig. 2. magnified.

COROLLA wanting.

STAMINA: six FILAMENTS, capillary and very short; ANTERÆ oblong, upright, and yellow, fig. 3.

PISTILLUM: GERMEN three-cornered, pointed; STYLE short, filiform: STIGMATA three, long, filiform, and villous, fig. 4.

The *Juncus pilosus*, *sylvaticus*, and *campestris*, are distinguished from the other species, by their grass-like hairy leaves; the first of these has some little affinity with the *campestris* already figured, but differs from it, not only in its place of growth, but in having its flowers stand singly, and not in clusters; while the *campestris* delights in exposed, the *pilosus* is found only in woods, and shady situations; and from this circumstance we may, perhaps, in some degree account for its flowering earlier than any of the others; for, if the season be not very unfavourable, it will begin to flower in February, and is usually out of bloom the beginning of May.

We know of no use to which this species, or the *sylvaticus*, is applicable; nor yet from the places they inhabit, can they be considered in any degree noxious in Agriculture.

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Juncus pilosus.



Juncus sylvaticus.

J. Sowerby del. et sculp.

JUNCUS SYLVATICUS. GREAT HAIRY WOOD-RUSH.

JUNCUS Linn. Gen. Pl. HEXANDRIA MONOGYNIA.

Cal. 6-phyllo. Cor. o. Caps. 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *sylvaticus* foliis planis pilosis, corymbo decomposito, floribus fasciculatis sessilibus. Hudson
Fl. Angl. p. 151.

JUNCUS foliis planis hirsutis, floribus paniculatis, fasciculatis. Haller Hist. n. 1324.

GRAMEN nemorosum hirsutum latifolium majus. Scheuch. Agrost. p. 317. C. B. Pin. 7.

GRAMEN nemorosum hirsutum latifolium maximum. Raii Syn. p. 416. The greatest broad-leaved hairy Wood-Grafs.

GRAMEN luzulæ maximum. J. B. II. 493. Lightfoot Fl. Scot. p. 180.

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Authors have contributed not a little to mislead students, by describing this species of Juncus, as uncommonly large and scarce, and it is probable that Mr. RAY would not have considered it as a species, had he not by accident met with some very luxuriant specimens of it; in certain situations it doubtless may be found very large, and tall, but it more usually occurs with a stalk a little more than a foot high; of some plants growing in my garden, close to each other, in a moist, but not very shady situation, the comparative height of the *Juncus campestris*, *pilosus*, and *sylvaticus*, was as follows, *campestris* 9 inches, *pilosus* 11, and *sylvaticus* 15; the account of its being a scarce plant is still more erroneous, as there is scarcely a wood in the neighbourhood of London, nor, as far as we have observed, in any part of the kingdom, in which they do not grow plentifully together: they do so at least in Bishop's-Wood, Hampstead, which is near the spot where Mr. RAY describes his plant as growing.

By LINNÆUS this plant is considered as a variety only of the *pilosus*: Mr. HUDSON and Baron HALLER, examining it with more attention than LINNÆUS, make a distinct species of it, and give such a description of it as cannot fail to make it known.

To the characters given in their synonyms above quoted, we may add, that the leaves are not only much broader, and more concave, but more sharply pointed than those of the *pilosus*, that it flowers three weeks or a month later, and that when the flowering is over, the flower-stalks of the *pilosus* are more reflexed or pendulous than those of the *sylvaticus*.

This species flowers in May; or earlier, if the season be a mild one.

ALISMA PLANTAGO. GREAT WATER-PLANTAIN.

ALISMA *Lin. Gen. Pl. HEXANDRIA POLYGYNIA.*

Cal. 3-phyllus. Petala 3. Sem. plura.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

ALISMA *Plantago* foliis ovatis acutis, fructibus obtuse trigonis. *Lin. Syst. Vegetab. p. 288. Spec. Pl. p. 486. Fl. Suec. n. 323.*

DAMASONIUM foliis ellipticis, lanceolatis, capitulo rotunde triquetro. *Haller. Hist. n. 1184.*

ALISMA *Plantago. Scopoli Fl. Carn. n. 449.*

PLANTAGO aquatica latifolia. *Bauh. Pin. 190.*

PLANTAGO aquatica major. *Ger. emac. 417. Park. 1245. Raii Syn. 257. Great Water-Plantain. Hudson Fl. Angl. ed. 2. p. 159. Lightfoot Fl. Scot. p. 193.*

RADIX perennis, alba, bulbiformis, tunicata, densifimis fibris capillata.

ROOT perennial, white, somewhat bulbous, coated, and furnished with a tuft of numerous fibres.

FOLIA omnia radicalia, longe petiolata, ovata, acuta, glabra, nervosa, integerrima, erecta, subundulata, petiolis semiteretibus, basi vaginatis, purpurascensibus.

LEAVES all springing from the root, standing on long foot-stalks, ovate, pointed, smooth, ribbed, perfectly entire, upright, slightly waved, the foot-stalks semicylindrical, at bottom sheathing and purplish.

SCAPUS obtuse trigonus, nudus, laevis, pedalis ad tripedalem.

STALK obtusely three-cornered, naked, smooth, from one to three feet in height.

RAMI floriferi verticillatim circa scapum dispositi, utramque ramuli circa ramos, numero quam maxime variantes, nudi.

BRANCHES producing the flowers disposed in whorls round the stalk and the lesser branches in a similar manner round them, varying greatly in number, and naked.

STIPULÆ ad basin cujusvis verticilli, membranaceæ, marcidæ, vaginantes.

STIPULÆ at the base of each whorl, membranous, withered, and sheathing.

CALYX: PERIANTHIUM triphyllum, foliolis ovatis, acutiusculis, concavis, lineatis, patentibus, margine membranaceis, fig. 1.

CALYX: a PERIANTHIUM of three leaves, the leaves ovate, a little pointed, concave, marked with lines, spreading, membranous on the edge, fig. 1.

COROLLA: PETALA tria, subrotunda, purpurea, erosa, plana, patentia, remotiuscula, unguibus flavis, fig. 2.

COROLLA: three PETALS, roundish, purple, gnawed on the edge, flat, spreading, somewhat remote from each other, claws yellow, fig. 2.

STAMINA: FILAMENTA sex, setacea, subincurvata. ANTERÆ virescentes, fig. 3.

STAMINA: six FILAMENTS, fine and tapering, slightly bending inwards. ANTERÆ greenish, fig. 3.

PISTILLUM: GERMINA plurima, 12 et ultra, in orbem posita. STYLI tot quot germina, filiformes, erecti. STIGMATA simplicia, fig. 4. Pistillum auct. fig. 5.

PISTILLUM: GERMINA numerous, to 12 or more, placed in a circle. STYLES as numerous as the germina, filiform, upright. STIGMATA simple, fig. 4. The Pistillum magnified, fig. 5.

The ancient Botanists, taken with the first appearance of things, and observing a similarity in the leaves of this plant to those of Plantain, without consulting the flower or fruit, made it at once a Plantago, though its fructification bears not the most distant affinity to that genus.

Baron HALLER observes, that in its acrimonious quality it comes near to the Crowfoots, and on the authority of FABREGOU relates, that it has proved fatal to kine and other animals who have eaten it. From these effects he very properly queries how comes it to be considered by FLOYER as a cooler and astringent, and by BOCCONE as useful in the Piles.

Externally applied, it blisters; taken internally, it produces the same effect as the Crowfoots. Cattle are much injured, and sometimes killed by it. Atrophy and immobility of the hind parts of the body are the effects of which it is productive. LINDENSTOLPIUS, Brugman's *Dissertatio Quænam sunt Plantæ inutilis, &c. 1783.*

There is no plant more common than this species of Water-Plantain in and by the sides of ponds, rivers, &c. It flowers in July, August, and September.



C. *Alisma* & *Plantago aquatica*.



Alisma Amazonium

J. Sowerby del. et sculp.

ALÍSMA DAMASONIUM. STARRY-HEADED WATER-PLANTAIN.

ALISMA Linn. Gen. Pl. HEXANDRIA POLYGYNIA.

Cal. 3-phyllus. Petala 3. Sem. plura.

Raii Syn. Gen. 27. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

ALISMA *Damasonium* foliis cordato oblongis, floribus hexagynis, capsulis subulatis. Linn. Syst. Vegetab. p. 350. Sp. Pl. p. 486.

PLANTAGO aquatica stellata. Baub. Pin. 190.

DAMASONIUM stellatum Dalechampii. I. B. III. 789.

PLANTAGO aquatica minor stellata. Ger. emac. 417.

PLANTAGO aquatica minor muricata. Park. 1245. Raii Syn. Star-Headed Water-Plantain. Huds. Fl. Angl. ed. 2. p. 158.

RADIX perennis, fibrosa, fibris plurimis, densissime capillatis, simpliciusculis, ex fusco-aurantiacis, in limum profunde demissis, junioribus albis.

FOLIA longe petiolata, natantia, cordato-oblonga, integerrima, utrinque glabra, obtusa, margine ipsa purpurascente, subitus nervosa, nervis duobus vix protuberantibus parallelis prope marginem.

PETIOLI obtuse trigoni, subdiaphani, spongiosi, ad basin lati, et membranâ albidâ utrinque instructi.

SCAPUS spithameus, teres, laevis, nudus, crassiusculis, superne sordide purpureus, multiflorus.

FLORES albi, subumbellati.

UMBELLÆ plerumque tres, inferior lateralis, octo-radiata, proxima superior sexradiata, suprema triradiata, numerus vero variat in diversis plantis.

INVOLUCRUM umbellæ triphyllum, foliolis ovato-lanceolatis, membranaceis, marcescentibus.

PEDUNCULI qui radii umbellæ, teretes, nudi, sessiliunciales, superioribus brevioribus.

CALYX: PERIANTHIUM triphyllum, foliolis sub-ovatis, obtusis, concavis, patentibus, apice membranaceis, cito marcescentibus, fig. 1.

COROLLA: PETALA tria, subrotunda, alba, tenera, ungue flavo, fig. 2.

STAMINA: FILAMENTA sex, subulata, flavescens, corollâ breviora: ANTERÆ oblongæ, flavæ, fig. 3.

PISTILLUM: GERMINA plerumque sex, subulata erecta: STYLI nulli: STIGMATA villosa, subreflexa, fig. 4.

PERICARPIUM: CAPSULÆ sex, patentes, subulatae, inferne compressæ, uniloculares, monospermæ vel dispermæ, fig. 5.

SEmen oblongum, obtusum, nigricans, nitidum, ad lentem punctis exasperatum, sulco per medium utrinque longitudinali, fig. 6.

ROOT perennial, fibrous, fibres numerous, thickly matted together, mostly simple, of a brownish orange colour, striking deeply into the mud, the young ones white.

LEAVES standing on long footstalks, swimming, of an oblong heart shape perfectly entire, smooth on both sides, obtuse, the very edge purplish, ribb'd on the under side, two very slightly, prominent, parallel ribs near the margin.

LEAF-STALKS obtusely three-cornered, somewhat transparent, spongy, broad at the base, and edged on each side with a whitish membrane.

STALK about a span long, round, smooth, naked, clumsy, of a dirty purple colour above, many-flower'd.

FLOWERS white, growing umbel-like.
UMBELS for the most part three, the lowermost lateral, eight-rayed, the next above six-rayed, the uppermost three-rayed, the number however varies in different plants.

INVOLUCRUM of the umbel three-leav'd, leaves ovato-lanceolate, membranous, and withering.

FLOWER-STALKS which form the rays of the umbel, round, naked, an inch and a half in length, the upper ones shortest.

CALYX: a PERIANTHIUM of three leaves, the leaflets nearly ovate, obtuse, concave, spreading, membranous at the top, and soon withering, fig. 1.

COROLLA composed of three roundish, white tender PETALS with yellow claws, fig. 2.

STAMINA: six tapering yellowish FILAMENTS, shorter than the corolla: ANTERÆ oblong and yellow, fig. 3.

PISTILLUM: GERMINA for the most part six in number, tapering, upright: STYLES none: STIGMATA villous, somewhat reflexed, fig. 4.

SEED-VESSEL: six spreading CAPSULES, tapering to a point, flattened below, one-cell'd, a single seed or two in each, fig. 5.

SEED oblong, obtuse, blackish, shining, when magnified appearing rough with little prominent points, a groove running down the middle on each side, fig. 6.

Not very uncommon in the neighbourhood of London, in ditches, stagnant waters, and ponds, especially such as have been formed by the digging of gravel: particularly plentiful in such like ponds on Wandsworth Common, with *Sparganium simplex*: also, about Clapham, Walworth, &c.

Flowers from June to September.

Is not remarkable for its qualities or uses.

TOURNEFORT makes a distinct genus of the *Damasonium*, referring the *Alisma Plantago* and *ranunculoides* to the genus *Ranunculus*.

RAY also separates it from the *Plantago aquatica*, but observes that it agrees with it in its tripetalous flowers, though it differs in its seed-vessels.

Notwithstanding this discrepancy in the seed-vessels, the other parts of its fructification, joined to its general habit, in our humble opinion, fully justify LINNÆUS in making it an *Alisma*.

RUMEX ACETOSELLA. SHEEP'S SORREL.

RUMEX Linn. Gen. Pl. HEXANDRIA TRIGYNIA.

Cal. 3-phyllus. Petala 3, conniventia. Sem. 1. triquetrum.

Raii Syn. Gen. 5. Herbae flore imperfetto seu flamineo (vel apetalo potius).

RUMEX *Acetosella* floribus dioicis foliis lanceolato-hastatis. Linn. Syst. Vegetab. p. 286. Sp. Pl. 481. Fl. Suec. n. 319.

LAPATHUM sexubus separatis, foliis sagittatis, hamis acutis recurvis. Haller Hist. 1596.

LAPATHUM *Acetosella*. Scopoli Fl. Carn. n. 439.

ACETOSA arvensis lanceolata. Bauhin Pin. p. 114.

OXALIS tenuifolia. Ger. emac. 397.

ACETOSA minor lanceolata. Parkins. 744.

LAPATHUM acetosum repens lanceolatum. Raii Syn. p. 143. Sheep's Sorrel. Hudson Fl. Engl. p. 156. Lightfoot Fl. Scot. p. 191.

RADIX perennis, sublignosa, repens, fusca,

ROOT perennial, of a brown colour, somewhat woody, and creeping.

CAULIS palmaris ad pedalem, erectus, lavis, striatus, subangulosus, ramosus.

STALK from a hand's breadth to a foot in height, upright, smooth, striated, somewhat angular, branched.

FOLIA alterna, petiolata, inferiora lanceolato-hastata, hamis saepius recurvis, in umbrosis subglaucia, in apricis ut ut tota planta sanguinea, superiore linear-lanceolata.

LEAVES alternate, standing on foot-stalks, the lower ones lanceolate, and halbert-shaped, the lobes forming the halbert, usually bent upwards, in shady situations somewhat glaucous, in exposed ones of a blood colour, as well as the whole plant, the upper ones entire, betwixt linear and lance-shaped.

PETIOLUS longitudine folii, inferne striatus, superne canaliculatus, basi vaginans, vaginâ apice membranaceâ, albâ, lacerâ, saepè reflexâ.

LEAF-STALK the length of the leaf, on the under side striated, above single-channelled, forming a sheath at bottom, the tip of which is membranous, white, torn, and often reflexed.

SPICÆ plurimæ, nudæ, subramosæ, saepè nutantes.

SPIKES numerous, naked, somewhat branched, and often drooping.

FLORES masculi et fœminei in distinctis plantis, minimi; fig. 1, 2. flos masculus auctus; fig. 3. fœmineus; fig. 4. semen magnitudine naturali; fig. 5. idem auct.

FLOWERS male and female in separate plants, very minute; fig. 1, 2. a male flower magnified; fig. 3. a female flower; fig. 4. the seed of its natural size; fig. 5. the same magnified.

In representing the two sexes (which occur in this as well as in the common Sorrel) we have intended that one of them should express the plant in its dwarf state, as it usually occurs on very dry, hilly pastures. In such situations the whole plant is frequently found of a bright red colour. In more shady aspects it grows taller, and the leaves assume a greener hue. Wherever it abounds we may in general look on it as a sure indication of a dry, barren soil. HALLER observes, that it is often found growing in coal-yards (*areis carbonariorum*).

Agriculturally considered, we must number it with the weeds, and with those too, from its creeping roots, of difficult extirpation.

It is found in flower from June to September.



ERIC A VULGARIS. COMMON HEATH.

ERIC A Lin. Gen. Pl. OCTANDRIA MONOGYNIA.

Cal. 4-phylus. Cor. 4-fida. Filamenta receptaculo inserta. Antheræ bifidæ.
Caps. 4-locularis.

Raii Syn. ARBORES ET FRUTICES.

ERIC A vulgaris antheris aristatis, corollis campanulatis subæqualibus, calycibus duplicatis, foliis oppositis sagittatis. Lin. Syst. Vegetab. p. 301. Sp. Pl. p. 501. Fl. Suec. n. 336.

ERIC A foliis imis adpressis simplicibus, floralibus calcaratis. Haller Hist. n. p. 1012.

ERIC A vulgaris. Scopoli Fl. Carn. n. 460.

ERIC A vulgaris glabra. Bauh. Pin. 485.

ERIC A vulgaris seu pumila. Ger. emac. 1380.

ERIC A vulgaris. Parkins. 1480. Raii. Syn. 470. Common Heath or Ling. Scot. Hather. Hudson. Fl. Angl. ed. 2. p. 165. Lightfoot Fl. Scot. p. 204.

Fruticulus pedalis, bipedalis et ultra, valde ramosus, rami suberecti, teretes, pubescentes, rubi-cundi.

FOLIA opposita, circa ramulos in quatuor series im-bricata, sessilia, sagittata.

FLORES purpurei, spicati, subsecundi.

PEDUNCULI brevissimi, longitudine foliorum.

CALYX: duplex, persistens, exterior brevissimus, tetraphyllus, foliolis ovatis, acutis, patentibus, e viridi purpurascens, ad lentem ciliatis, interior cum corolla concolor, tetraphyllus, foliolis ovato-lanceolatis, nitidis, corolla longioribus, demum inflexis, fig. 1, 2.

COROLLA monopetala, purpurea, quadripartita, corollâ brevior, inclusa, fig. 3.

STAMINA: FILAMENTA octo, alba. ANTHERÆ sub-coadunatæ, aurantiacæ, bicornes, fig. 4, 5.

PISTILLUM: GERMEN villosum. STYLUS calyce longior, sursum curvatus. STIGMA quadridium, fig. 6.

A small shrub, a foot or two in height, or more, very much branched, the branches mostly upright, round, downy, and reddish.

LEAVES opposite, sessile and arrow-shaped, placed round the small branches in four rows.

FLOWERS purple, growing in a spike, mostly all one way.

FLOWER-STALKS very short, the length of the leaves.

CALYX: double, and permanent, the outermost very short, composed of four leaves, which are ovate, pointed, spreading, partly green, and partly purple, when magnified hairy on the edges, the inner one the same colour as the corolla, composed of four somewhat lanceolate leaves, shining, longer than the corolla, finally bending inward, fig. 1, 2.

COROLLA monopetalous, purple, deeply divided into four segments, shorter than the corolla, and enclosed within it, fig. 3.

STAMINA: eight white FILAMENTS. ANTHERÆ somewhat united, orange-coloured, each furnished with two little horns, fig. 4, 5.

PISTILLUM: GERMEN villous. STYLE longer than the calyx, bent upward. STIGMA quadrifid, fig. 6.

There is, perhaps, no tribe of plants whose flowers assume a greater variety of form than those of the present genus. Such as have had opportunities of examining many of the foreign heaths, must assent to the truth of this observation; and such as have not, need only consult the present species, and compare the dissections with those of the *Erica cinerea*, and *Tetralix* already figured, to be perfectly convinced of it: so great indeed has this difference appeared to some botanists, that they have divided them into distinct genera.

Africa produces more heaths than the whole world besides. Next to Africa, Europe is the most productive; and almost every part of this quarter of the globe, especially the northern, abounds with this species. LINNÆUS remarks, in his *Flora Lapponica*, that, in some of the districts through which he passed, scarce any plant was to be seen but the barren heath, which every where covered the ground, and could no ways be extirpated. The country people, he observes, had an idea that there were two plants which would finally overspread and destroy the whole earth, viz. Heath and Tobacco.

Exclusive of the animation which the blossoms of this species in particular impart to our dreary wastes at the close of summer, it answers many important purposes in natural as well as rural œconomy.

While its branches afford shelter to many of the feathered tribe, its seeds form a principal part of their food, especially those of the Grouse kind: and here we may remark a particular provision of nature in forming the seed-vessel, &c. in such a manner as to preserve the seeds a whole year, or longer, whence they have a constant supply. The foliage of this species affords nourishment to the caterpillar of the *Phalæna quercus Linnæi*, or great Egger Moth: we observed many instances of this in our northern tour. Bees are well known to collect largely from the blossoms of heath; but such honey is browner, coarser, and of less value than such as is collected where no heath grows. According to Linnaeus's experiments, no kind of cattle appear to be fond of it. Horses and Oxen will eat it; Sheep and Goats sometimes eat, sometimes reject it. Cattle, not accustomed to browse on heath, give bloody milk; but are soon cured, by drinking plentifully of water. *Pennant's Tour*, p. 229.

Heath or Hather is applied to many œconomical purposes among the Highlanders: they frequently cover their houses with it instead of thatch, or else twist it into ropes, and bind down the thatch with them in a kind of lattice-work. In most of the western isles they dye their yarn of a yellow colour, by boiling it in water with the green tops and flowers of this plant. In Rum, Skye, and the Long Island, they frequently tan their leather in a strong decoction of it. Formerly the young tops are said to have been used alone to brew a kind of ale; and even now, I was informed, that the inhabitants of Isla and Jura still continue to brew a very potable liquor, by mixing two-thirds of the tops of Hather, and one-third of malt. This is not the only refreshment that Hather affords; the hardy Highlanders frequently make their beds with it, laying the roots downwards, and the tops upwards, which, though not quite so soft and luxurious as beds of down, are altogether as refreshing to those who sleep on them, and perhaps much more healthy. *Lightfoot Fl. Scot.* p. 205.

In most parts of Great-Britain, Heath is in general use for making brooms; and for this purpose is usually cut when in blossom. The turf, with the Heath growing on it, is cut up, dried, and used for fuel by the poor cottager. It is also in use for heating ovens, for mending bad roads where better materials are wanting, and for making drains under ground.

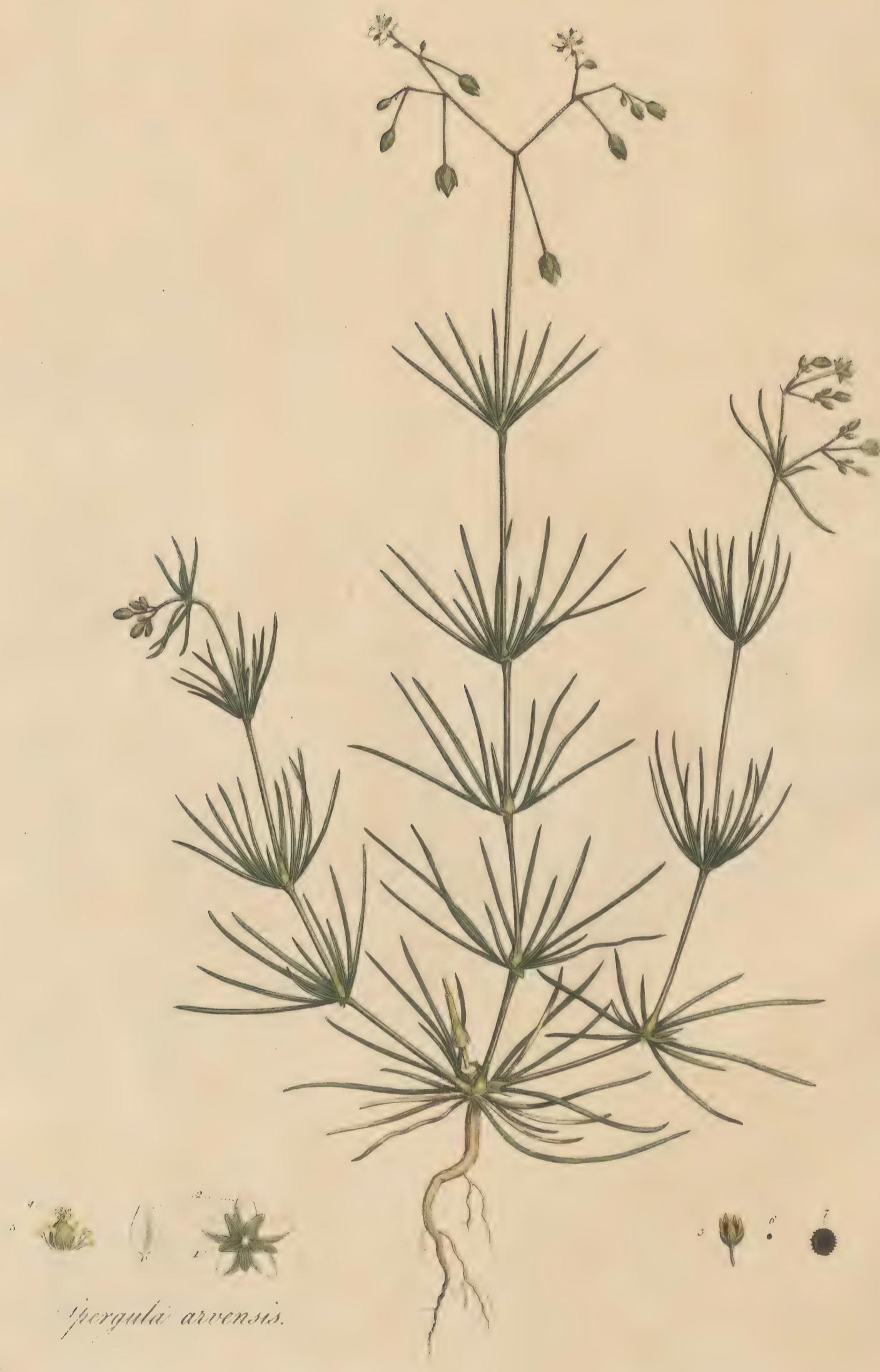
This species as well as the others, is sometimes found with white blossoms, and a variety with hoary leaves is not uncommon, particularly on Bagshot Heath. Some authors have improperly considered this as the *Erica ciliaris* of LINNÆUS.

The Dodder very frequently entwines itself about this plant, and gives it an appearance which may puzzle, if not mislead, the inexperienced botanist.

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Erica vulgaris.



Hypericum arvensis.

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S P E R G U L A A R V E N S I S . C O R N S P U R R E Y .

SPERGULA Linn. Gen. Pl. DECANDRIA PENTAGYNA.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SPERGULA *arvensis* foliis verticillatis, floribus decandris. Linn. Syst. Vegetab. p. 363. Sp. Pl. p. 630.
Flor. Suec. n. 419.

ALSINE foliis verticillatis, seminibus rotundis. Haller Hist. n. 873.

ALSINE spergula dicta major. Bauhin Pin. 251.

SAGINA Spergula. Ger. emac. 1125.

SAGINA Spergula major. Parkin. 562. Raii Syn. p. 351. Spurrey. Hudson Fl. Angl ed. 2. p. 203.
Lightfoot Fl. Scot. p. 243.

RADIX annua, fibrosa.	ROOT annual and fibrous.
CAULES plures, spithamæ, seu pedales, suberecti, teretes, læves, superne viscosi, geniculis globosis.	STALKS numerous, about a span or a foot in length, nearly upright, round, smooth, on the upper part clammy, joints globular.
STIPULÆ ad genicula binæ, brevissimæ, apicibus inferiorum reflexis.	STIPULÆ growing in pairs at the joints, very short, the tips of the lower ones reflexed.
FOLIA verticillata, fasciculos duos constituentia, foliolis octo circiter in quovis fasciculo, interioribus sensim minoribus, linearia, teretia, apicibus flavis, dorso lineâ exarato, superioribus viscosis.	LEAVES growing in whorls, and forming two bundles, about eight in each bundle, the inner ones gradually smallest, linear, round, tips yellow, with a deep furrow on the back, the upper ones clammy.
FLORES albi, pulchelli, paniculati, panicula dichotoma.	FLOWERS white, pretty, growing in a panicle, which is dichotomous.
PEDUNCULI viscosi, peractâ florescentiâ penduli.	PEDUNCLES clammy, hanging down when the flowering is over.
CALYX: PERANTHUM pentaphyllum, foliolis ovatis, obtusifusculis, concavis, patentibus, perfistentibus, marginibus albidis, fig. 1.	CALYX: a PERANTHUM of five leaves, the leaves ovate, bluntnish, concave, spreading, permanent, the edges whitish, fig. 1.
COROLLA: PETALA quinque, ovata, acutiuscula, concava, calyce longiora, ungue brevi affixa, fig. 2.	COROLLA: five PETALS, ovate, a little pointed, concave, longer than the calyx, affixed by a short claw, fig. 2.
STAMINA: FILAMENTA decem, alba, subulata; ANTHERÆ subrotundæ, flavæ, fig. 3.	STAMINA: ten FILAMENTS, white, tapering: ANTHERÆ roundish and yellow, fig. 3.
PISTILLUM: GERMIN subrotundum; STYLI quinque, breves, reflexi; STIGMATA simplicia, fig. 4.	PISTILLUM: GERMIN roundish; STYLES five, short, reflexed; STIGMATA, simple, fig. 4.
PERICARPIUM: CAPSULA ovata, tecta, unilocularis, quinquevalvis, fig. 5.	SEED-VESSEL: an ovate CAPSULE, covered by the remaining calyx, of one cavity and five valves, fig. 5.
SEMINA plurima, majuscula, nigricantia, depresso-globosa, punctis rufis prominulis ad lentem exasperata, annulo manifeste cincta, fig. 6, 7.	SEEDS numerous, rather large, blackish, round, with a small degree of flatness, if viewed with a magnifier beset with small, reddish, prominent points, and encircled with a manifest ring, fig. 6, 7.

The *Spergula arvensis* is seldom found but in a sandy soil; and as that kind of soil does not abound much in the neighbourhood of London, so this species of Spergula may be considered as one of our plantæ rariores. On some parts of Hampstead-Heath, and in the neighbourhood of the Spaniard, we have often noticed it, as well as in the sand-pits at Charlton. In some sandy fields near Carshalton, in Surrey, we have seen it so plentiful as to appear like the intended crop. As no use is made of it with us, it may be considered as one of the worst weeds to which a sandy soil is subject. Abroad, however, it is an object of cultivation. In some parts of Flanders, Germany, and Norway, they feed their cattle with the plant, and their poultry with its seeds; but as Tares and Buck-wheat, which are far more productive, as well as nutritious, may be cultivated in a similar soil, our Farmers do wisely in rejecting it.

It is found in blossom from July to September.

We have not found this plant unusually subject to vary in the number of its stamens; nor have we observed it to vary so much in any other respect as to make us suspect we had seen the *Spergula pentandra* of LINNÆUS, which Mr. HUDSON makes a variety of the *arvensis*, contrary to the opinion of some of the greatest authorities. If the difference betwixt these two plants was to depend solely on the number of its stamens, we should be extremely ready to consider them as the same; but RAY, whose opinion must be allowed to have great weight, describes the *pentandra* as a species totally distinct from the *arvensis*. He does not find his specific difference on the number of its stamens; but on characters, less subject to variation: the leaves at the joints, he observes, are fewer and thicker, the plant flowers early, and soon goes off (neither of which takes place in the *arvensis*); and adds, that Dr. SHERARD observed it in sandy places in Ireland.

To shew that other Authors have likewise entertained an opinion of its being a distinct species, we shall quote their respective synonyms.

Spergula foliis filiformibus verticillatis raris seminibus nigris. Sauv. Monsp. 167.

Alpine spergulæ facie minima seminibus emarginatis. Tourn. Inst. 244. Vaill. Paris 8.

Alpine spergulæ facie minima. Magn. Monsp. 14.

Arenaria teretifolia verna, flore albo, semine limbo foliaceo cincto. Rupp. Jen. 101.

Spergula annua, semine foliaceo nigro circulo membranaceo albo cincto. Moris. Hist. 2. p. 551. blæf. 28. Dill. Gijs 46. E. N. C. cent. 5. p. 275. t. 4.

On these several authorities we cannot but conclude, that there exists such a plant as the *pentandra*; nor can we avoid expressing a wish, that some gentleman, whose residence may afford him an opportunity of observing its history, will favour us with a more complete account of it.



Agrimonia Eupatoria



AGRIMONIA EUPATORIA. AGRIMONY.

AGRIMONIA Linn. Gen. Pl. DODECANDRIA DIGYNIA.

Cal. 5-dentatus, altero obvallatus. Petala 5. Sem. 2, in fundo calycis.

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI SEMINIBUS NUDIS SOLITARIIS SEU AD SINGULOS FLORES SINGULIS.

AGRIMONIA *Eupatoria* foliis caulinis pinnatis: impari petiolato, fructibus hispidis. Linn. Synt. Veg. p. 372. Sp. Pl. p. 643. Fl. Suec. n. 423.

AGRIMONIA foliis pinnatis, pinnulis alterne minimis. Haller Hist. 991.

AGRIMONIA *Eupatoria*. Scopoli Fl. Carn. n. 567.

EUPATORIUM veterum seu Agrimonia. Bauh. Pin. 321.

AGRIMONIA Ger. emac. 712.

AGRIMONIA vulgaris. Park. 594. Raii Syn. p. 202. Agrimony. Hudson Fl. Engl. ed. 2. p. 206. Lightfoot Fl. Scot. p. 247.

RADIX	perennis, ramosa, rubescens, squamis nigritibus obseffa.	ROOT	perennial, branched, of a reddish colour, beset with blackish scales.
CAULIS	pedalis ad tripedalem, erectus, teres, obsoletus angulosus, hirsutus, rubicundus aut rubro punctatus, simplex vel ramosus.	STALK	from one to three feet high, upright, round, faintly angular, hirsute, reddish or dotted with red, single or branched.
FOLIA	alterna, subambrosiaca, hirsuta, interrupte pinnata cum impari, 5 vel 6 juga, pinnæ suboppositæ, sessiles, subovatæ, venosæ, serratae, ciliatae, pinnulæ plerumque integræ aut trifidae.	LEAVES	alternate, somewhat fragrant, hirsute, interruptedly pinnated with an odd one at the end, composed of five or six pair of pinnæ, pinnæ mostly opposite, sessile, somewhat ovate, veiny, serrated, edged with hairs, the small pinnæ for the most part entire or trifid.
STIPULÆ	duæ, oppositæ, majusculæ, amplexicaules, patentes, profunde serratae.	STIPULÆ	two, opposite, rather large, embracing the stalk, spreading, and deeply serrated.
BRACTEÆ	trifidae, lacinii linearibus, hirsutis.	FLORAL-LEAVES	trifid, the segments linear and hirsute.
SPICA	terminalis, elongata, hirsuta, floribus breviter pedicellatis.	SPIKE	terminal, elongated, hirsute, the flowers standing on very short foot-stalks.
CALYX:	PERIANTHUM monophyllum, quinquefidum, superum, persistens, lacinii ovatis, acutis, fig. 1. extra setis filiformibus, rigidis, apice purpureis, uncinatis, cinctum, fig. 2. intus substantia flava glandulosa clausum; <i>Involucrum</i> ad basin germinis diphylum foliolis binis seu tridentatis, fig. 3.	CALYX:	a PERIANTHUM of one leaf, divided into five segments, placed above the germen, and permanent, the segments ovate, pointed, fig. 1. externally surrounded with rigid, filiform, hooked bristles, purple at the points, fig. 2. within closed with a yellow glandular substance; <i>Involucrum</i> at the base of the germen, composed of two leaves, each of which has two or three teeth, fig. 3.
COROLLA:	PETALA quinque, subovata, flava, patentia, sessilia, substantia glandulosâ calycis inserta, fig. 4.	COROLLA:	five PETALS, somewhat ovate, yellow, spreading, sessile, inserted into the glandular substance of the calyx, fig. 4.
STAMINA:	FILAMENTA undecim, seu duodecim, lutescentia, curvata, cum petalis inserta. ANTHERAÆ didymæ, compressæ, fig. 5.	STAMINA:	eleven or twelve FILAMENTS, of a yellowish colour, bent and inserted with the petals. ANTHERAÆ composed of two lobes and flattened, fig. 5.
PISTILLUM:	GERMEN inferum, fig. 6. STYLI duo, curvati, longitudine staminum. STIGMATA obtusa, fig. 7.	PISTILLUM:	GERMEN beneath the calyx, fig. 6. STYLES two, bent, the length of the stamens. STIGMATA blunt, fig. 7.
PERICARPIUM:	CAPSULA e calyce orta, nutans, extra fulcatum, superne cincta aristis uncinatis, unilocularis, fig. 8.	SEED-VESSEL:	a CAPSULE, arising from the calyx, drooping, grooved on the outside, on the upper part surrounded with hooked beards, of one cavity, fig. 8.
SEMINA	duo, subrotunda, glabra, fig. 9.	SEEDS	two, roundish and smooth, fig. 9.

Agrimony is a plant of very general growth, being found not only in Europe, but in Virginia and Japan. It has been chiefly regarded as a medicinal plant, and as such is often raised in gardens. Culture does not seem to produce any material change in its quality. Another species or variety, of foreign original, common also in our gardens and differing little in appearance from our indigenous Agrimony, promises to be superior to it in virtue, as its taste is more aromatic, and its smell much stronger, and very agreeable. CASPAR BAUHINE calls it *Eupatorium odoratum*. FABIUS COLUMNA *Eupatorium Diocoridis odoratum et aromaticum*. Lewis Disp. ed. Aik. p. 29.

The leaves of Agrimony have a slightly bitterish, roughish taste, accompanied with an agreeable, though very weak, aromatic flavour. The flowers are in smell stronger, and more agreeable, than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and rectified spirit. The leaves impart to the former a greenish yellow, to the latter a deep green colour: the flowers yield their own deep yellow tincture to both menstrua. *Ibid.*

Agrimony is one of the milder corroborants: and in this intention is sometimes employed, especially among the common people, against habitual diarrhoeas, and cachectic and other indispositions, from a lax state of the solids. Infusions of the leaves, which are not ungrateful, may be drank as tea. It is sometimes joined with other ingredients in diet drinks for purifying the blood, and in pectoral Apozems. *Ibid.*

This plant delights in a dry soil, and grows almost every where in this kingdom, in open pastures, in the borders of fields, and by the sides of hedges and ditches, flowering from July to September.

Cattle in general dislike and leave it untouched.

SPIRÆA ULMARIA. MEADOW-SWEET.

SPIRÆA Lin. Gen. Pl. ICOSANDRIA PENTAGYNYIA.

Cal. 5-fidus. Petala 5. Caps. polyspermæ.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

SPIRÆA *Ulmaria* foliis pinnatis: impari majore lobato, floribus cymosis. Linn. Syst. Vegetab. p. 393. Sp. Pl. p. 702. Fl. Suec. n. 440.

FILIPENDULA foliis pinnatis, acute serratis, minimis intermisstis, extrema trilobata maxima. Haller. Hist. n. 1135.

SPIRÆA *Ulmaria*, Scopoli Fl. Carn. n. 603.

BARBA CAPRI floribus compactis. Baub. Pin. 164.

ULMARIA I.B. III. 488.

REGINA PRATI Ger. emac. p. 1043.

ULMARIA vulgaris. Parkins. 592. Raii Syn. p. 259. Meadow-Sweet. Hudson Fl. Engl. ed. 2. p. 217. Lightfoot Fl. Scot. p. 259.

RADIX perennis, crassitie minimi digiti, obliqua, rubicunda, fibris plurimis ex fusco latescentibus descendantibus instructa.

CAULIS bi seu tripedalis et ultra, erectus, foliosus, angulatus, glaber, hinc inde rubicundus, plerumque simplex.

FOLIA alterna, petiolata, pinnata, 3-vel 5-juga: foliolis oppositis, sessilibus, ovato-oblongis, supra viridibus, glabris, lucidiusculis, lineatis, minutim venulosis, rugosis, subtus nervosis, minutim tomentosis, cinereis, margine inciso-dentatis, undique serratis, minutim ciliatis; terminatis foliolo majore, trifido-palmato.

PETIOLI subtus convexi, supra concavi; radicales triplo longiores.

STIPULÆ amplexicaules, acutæ, margine undique serratæ, minutim ciliatæ; partiales in petiolo communi intra singulum par pinnarum, sub oppositæ, parvæ, inequales magnitudine, ovatæ, dentato-ferratæ, pariter subtus tomentosæ.

CORYMBUS terminalis, erectus, minutim pubescens, pedunculatus, nudus, compositus e cymis plurimis inæqualibus, intermedia sessili.

CALYX: PERIANTHIUM monophyllum, subcampnulatum, ad lentem pubescens, pallidum, quinquefidum, laciniis ovatis, acutis, demum reflexis, fig. 1.

COROLLA: PETALA quinque, albida, oblongo-rotundata, unguiculata, patentia, calyce duplo longiora, fig. 2.

STAMINA: FILAMENTA viginti plura, filiformia, flavescens, longitudine corollæ, calyci inferta. ANTERÆ subrotundæ, flavescentes, fig. 3.

PISTILLUM: GERMINA quinque, sex, five plura; STYLI totidem, superne incrassati, reflexa; STIGMATA capitata, fig. 4.

PERICARPIUM; CAPSULÆ plurimæ, spiraliter contortæ, fig. 5.

ROOT perennial, the thickness of the little finger, oblique, reddish, furnished with numerous fibres of a brownish yellow colour, running deep into the earth.

STALK from two to three feet high or more, upright, leafy, angular, smooth, here and there of a reddish colour, for the most part unbranched.

LEAVES alternate, standing on foot-stalks, pinnated, pinnæ from three to five pair, opposite, sessile, ovato-oblong, above green, smooth and somewhat shining, minutely veined, and wrinkled, the veins impressed, beneath ribbed, covered with an ash-coloured downy substance, the edge jagged, serrated, and finely edged with hairs, the terminal pinna large and deeply divided into three segments.

LEAF-STALKS convex beneath, concave above, those of the radical leaves three times as long as the others.

STIPULÆ stem-clasping, pointed, serrated, and finely edged with hairs, the partial ones on the common foot-stalk, betwixt each pair of pinnæ, nearly opposite, small, unequal in size, ovate, indented or serrated, and like the pinnæ downy underneath.

CORYMBUS terminal, upright, slightly pubescent, stalked, naked, composed of several unequal cymæ, the intermediate one sessile.

CALYX: a PERIANTHIUM of one leaf, somewhat bell-shaped, if magnified slightly downy, of a pale colour, divided into five segments, which are ovate, pointed, and finally reflexed, fig. 1.

COROLLA: five whitish PETALS, oblong, roundish, clawed, spreading twice the length of the calyx, fig. 2.

STAMINA: twenty FILAMENTS or more, filiform, yellowish, the length of the corolla, inserted into the calyx. ANTERÆ nearly round, and yellowish, fig. 3.

PISTILLUM: GERMINA five, six, or more; STYLES as many, thickened above and turned back; STIGMATA forming little heads, fig. 4.

SEED-VESSEL: CAPSULES several, twisted together spirally, fig. 5.

The Meadow-Sweet has been justly celebrated for its fragrance and beauty, the agreeable odour which the whole plant, but more particularly the flowers, diffuse, has recommended it for the purpose of scenting rooms, and purifying the air, by strewing it on the floors; it is said not to affect the head like other perfumes: the leaves also, like those of Burnet, impart an agreeable flavour to wine and other liquors.

As an ornamental plant, it has long held a place in our gardens, not only in its wild state, but with variegated leaves and double flowers.

It puts in its claim also for medicinal virtues, which, however, do not appear to be of the most powerful kind; the leaves are recommended as mildly astringent, and useful in Dysenteries; the flowers are said to be antispadmotic and diuretic: their pleasant smell, in which their virtue resides, is soon dissipated by keeping.

It grows plentifully in wet meadows and by the sides of ponds and ditches, flowering from July to September.

Horses and kine are said to refuse it, sheep to eat it, and goats to be particularly fond of it; as it forms a great part of the pastureage in some meadows, it is of consequence for the husbandman more clearly to ascertain whether horses and cows refuse the young foliage, and whether they reject the whole plant when made into hay.

We have frequently observed small red tubercles on the leaves, which we have supposed to be occasioned by some species of Cynips.

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Spiraea Ullmaria.

ROSA CANINA. DOG ROSE.

ROSA Linn. Gen. Pl. ICOSANDRIA POLYGYNIA.

Cal. urceolatus, quinquefidus, carnosus, collo coarctatus. Petala 5. Sem. plurima, hispida, calycis interiori lateri affixa.

Raii Syn. ARBORES ET FRUTICES.

ROSA *canina* germinibus ovatis, pedunculisque glabris, caule petiolisque aculeatis. *Linn. Syst. Vegetab.* p. 394. *Sp. Pl.* p. 704. *Fl. Suec.* n. 441.

ROSA spinis aduncis, foliis septenis, calycibus tomentosis, segmentis pinnatis et semipinnatis, tubis brevissimis. *Haller Hist.* n. 1101.

ROSA *canina*. *Scopoli Fl. Carn.* n. 604.

ROSA *sylvestris vulgaris* flore odorato incarnato. *Bauh. Pin.* p. 483.

ROSA *sylvestris inodora f. canina*. *Park.* p. 1017. *sylvestris alba cum rubore folio glabro. I. B. II.*
p. 43. Raii Syn. p. 454. Cynosbatos et Cynorrhodon Officinarum. The common wild
Briar or Dog's Rose, the Hep-Tree. Hudson Fl. Angl. ed. 2. p. 220. Lightfoot Fl. Scot.
p. 262.

FLUTEX	sepedalis et ultra, aculeatus, scandens, ser-	A SHRUB	six feet or more in height, prickly, climbing or creeping.
CAULIS	teres, viridis, seu purpureus, ramosus, aculeatus, aculei validi, recurvi, juniores ruberimi, senescentes cinerei.	STALK	round, green, or purple, branched and prickly, prickles strong, crooked back, the young ones bright red, the old ones ash-coloured.
FOLIA	alterna, pinnata, plerumque septena, inodora, foliolis sessilibus, ovatis, acutis, ferratis, superne nitidis, inferne pallidioribus, inferioribus sensim minoribus, nervo medio subtus aculeato.	LEAVES	alternate, pinnated, consisting for the most part of seven folioli, which are scentless, ovate, pointed, serrated, the upper side shining, the lower side paler, the lowermost ones gradually smallest, the mid-rib prickly underneath.
STIPULÆ	denticulatæ, denticulis apice rubris, capitatis.	STIPULÆ	finely toothed, the teeth tipped with red, and terminated by a globule.
FLORES	terminales, bini seu terni, etiam seni, pedunculati, pedunculis teretibus, nudis.	FLOWERS	terminal, growing two or three, even sometimes six together, standing on footstalks, which are round and naked.
CALYX:	calycis foliola lanceolata, longe caudata, duo simplicia, duo utrinque pinnata, pinnis latecentibus, acutis, unum ab altero tantum latere pinnatum, fig. 1.	CALYX:	the folioli lanceolate, and long-tailed, two of them simple, two pinnated on each side, the pinnæ broadish and pointed, and one pinnated only on one side, fig. 1.
COROLLA:	PETALA quinque, obcordata, remotiuscula, carnea, ad basin pallidiora.	COROLLA:	five PETALS inversely cordate, a little remote from each other, pale red, faintest towards the base.
STAMINA:	FILAMENTA plurima, lutea, setacea. ANTHERÆ incumbentes, ovatae, fig. 2.	STAMINA:	FILAMENTS numerous, yellow, tapering. ANTHERÆ incumbent, and ovate, fig. 2.
PISTILLUM:	GERMINA plurima, intra tubum calycis, fig. 3. oblonga, lanata. STYLI filiformes. STIGMATA plurima, arcte conniventia in capitulum, fig. 3.	PISTILLUM:	GERMINA numerous, within the tube of the calyx, fig. 3. oblong and woolly. STYLES filiform. STIGMATA numerous, closely uniting and forming a little head, fig. 3.
PERICARPIUM:	BACCA ovalis, nitida, coccinea, unicellularis.	SEED-VESSEL:	an oval, shining, scarlet BERRY of one cavity.
SEMINA	plurima, lutescentia, subovata, lanata, apice barbata.	SEEDS	numerous, yellowish, somewhat ovate, woolly, bearded at top.

We remember somewhere to have seen an attempt to verify the Genera Plantarum: should such a plan ever be seriously agitated, we might recommend the following lines, written perhaps before any true notion was entertained of genus or species, as expressive of the Rose:

“Quinque sumus fratres, sub eodem tempore nati,
“Bini barbati, bini fine crine creati,
“Quintus habet barbam, sed tantum dimidiatam.”

On examination it will appear, that this description, however quaint, accords exactly with the calyx in most, if not all, the species of this genus.

In some parts of Europe, particularly Austria and Carniola, the Roses are much more numerous than with us; and appear to create difficulties in determining the species to which we are happily strangers. SCOPOLI thus exclaims: “*Fungum et Rosam quisque noscit, species vero genuinas utriusque generis ne Botanici quidem consummati.*” The present species, without some little attention, may however be mistaken for the *arvensis*, especially when its flowers are whiter than ordinary.

The Dog Rose is well known to produce the Hep, a fruit agreeable enough when ripe and mellowed by the frost. Of these a conserve is made, and kept in the shops, where it is more used as a vehicle for other medicines than for any virtue of its own.

A very singular mossy protuberance is often found on various parts of this Rose, which is occasioned by an insect, the *Cynips Rosæ* of LINNÆUS. Formerly this substance, under the name *Bedeguar*, was used medicinally: but is now with much propriety rejected.

Its lively blossoms decorate our hedges in the month of July. The fruit is late before it ripens. In the winter it is much sought after by many birds, especially the Pheasant.

The water distilled from the wild Rose is said to be infinitely more fragrant than the common Rose water. HALLER says of it, “*Fragrantia ejus olei omnia alia odoramenta superat, ut inter regia dona sit.*”

The strong thorns with which this shrub is furnished make it valuable either for forming hedges of itself, or for planting with others of stronger growth. The best way of raising plants for this purpose will be from seeds.



Rosa canina.

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Potentilla officinalis.

Erecta.

TORMENTILLA OFFICINALIS. TORMENTIL.

TORMENTILLA Linn. Gen. Pl. ICOSANDRIA POLYGYNIA.

Cal. 8-fidus. Petala 4. Sem. subrotunda, nuda, receptaculo parvo exsucco affixa.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

TORMENTILLA officinalis.

TORMENTILLA erecta caule erectiusculo, foliis sessilibus. Lin. Syst. Vegetab. p. 399. Sp. Pl. p. 716. Fl. Suec. n. 459.

FRAGRARIA tetrapetala, foliis caulinis sessilibus, quinatis. Haller. Hist. n. 1117.

POTENTILLA Tormentilla erecta. Scopoli Fl. Carn. n. 620.

TORMENTILLA sylvestris. Baub. Pin. 326.

TORMENTILLA Ger. emat. 992. vulgaris Parkins. 394.

Raii Syn. p. 257. Tormentil, Septfoil. Hudson Fl. Engl. ed. 2. p. 225. Lightfoot Fl. Scot. p. 272.

RADIX crassa, tuberosa, variæ magnitudinis et formæ, extus fusca, intus rubicunda.

CAULES plures ex una radice, spithamæ et ultra, procumbentes, teretes, filiformes, pilosi, inferne simplices, et fæpe nudi, superne ramosi.

FOLIA alterna, sessilia, amplexicauli-perfoliata, multifida, utrinque parce pubescentia, supra saturate viridia, laciis obverse lanceolatis, obtusis, superne latioribus, incisis, patentibus, tribus exterioribus duplo longioribus.

PEDUNCULI axillares, filiformes, elongati, uniflori, nudi, pilosi.

FLORES primo cernui, postea erecti.

CALYX: PERIANTHIUM monophyllum, octopartitum, pubescens, laciis ovatis, acutis, patentibus, alternis minoribus, fig. 1.

COROLLA: PETALA quatuor, lutea, obcordata, plana, patentia, unguibus calyci inserta, fig. 2.

STAMINA: FILAMENTA sedecim circiter, calyci inserta, corolla breviora; ANTHÆ simplices, luteæ, fig. 3.

PISTILLUM: GERMINA octo circiter, glabra, subrotunda, in capitulum conniventia, fig. 4.

STYLI filiformes, longitudine staminum, lateri germinis inserti; STIGMATA obtusa, fig. 5. auct.

RECEPTACULUM villosum.

SEMINA tot quot germina, oblongiuscula, obtusa, glabra, nuda, lutescentia, fig. 6.

ROOT thick, and tuberous, various both in size and shape, externally brown, internally red.

STALKS several from one root, a span or more in length, procumbent, round, filiform, hairy, below simple and often naked, above branched.

LEAVES alternate, sessile, nearly perfoliate, on each side slightly pubescent, above of a deep green colour, divided into many segments, the segments inversely lanceolate, obtuse, broadest above, serrated on the edges, and spreading, the three outermost twice as long as the others.

FLOWER-STALKS axillary, filiform, long, supporting one flower, naked, and hairy.

FLOWERS at first drooping, afterwards upright.

CALYX: a PERANTHİUM of one leaf, deeply divided into eight segments, downy, the segments ovate, pointed, alternately least, fig. 1.

COROLLA: four PETALS, of a yellow colour, inversely heart-shaped, flat, spreading, inserted by the claws into the calyx, fig. 2.

STAMINA: about sixteen FILAMENTS, inserted into the calyx, shorter than the corolla; ANTHEÆ simple and yellow, fig. 3.

PISTILLUM: GERMINA about eight, smooth, roundish, forming a little head, fig. 4. STYLES filiform, the length of the stamina, inserted into the side of the germen; STIGMA blunt, fig. 5. magnified.

RECEPTACLE villous.

SEEDS as numerous as the germina, rather oblong, obtuse, smooth, naked, and yellowish, fig. 6.

Tormentil is a plant of considerable importance in rural œconomy and medicine.

The roots are used in most of the Western Isles, and in the Orkneys, for tanning of leather; in which intention they are proved, by some late experiments, to be superior even to the oak-bark. They are first of all boiled in water, and the leather afterwards steeped in the cold liquor. In the islands of Tirey and Col the inhabitants have destroyed so much ground by digging them up, that they have lately been prohibited the use of them.

Lightfoot Fl. Scot. p. 272.

Considered medicinally, Tormentil root is a strong and almost flavourless astringent, and gives out its astringency both to water and rectified spirit, most perfectly to the latter: the watery decoction, of a transparent brownish-red colour whilst hot, becomes turbid in cooling like that of the Peruvian bark, and deposits a portion of resinous matter: the spirituous tincture, of a brighter reddish colour, retains its pellucidity. The extracts obtained by inspissation, are intensely styptic, the spirituous most so. It is generally given in decoction: an ounce and a half of the powdered root may be boiled in three pints of water to a quart, adding, towards the end of the boiling, a drachm of cinnamon: of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

We are by no means fond of changing the Linnæan names, but on the present occasion we are, in some degree, compelled to it, from the great inconvenience we have experienced in calling a plant *erecta*, which with us is always procumbent, unless drawn up by surrounding herbage, or by growing in woods, where it more rarely occurs.

Its most usual place of growth is on heaths, moors, and mountainous pastures, where it is extremely common, and flowers from June to September.

LINNÆUS appears to have been induced to call this plant *erecta*, by way of contrast to the *Tomentilla reptans*, which he enumerates as a species: such a plant is certainly figured and described by several English Botanists, but we never yet saw any species of Tormentil with a creeping stalk; we have observed the common Tormentil vary much in size, in the length of its branches, and in the number and size of its petals; we have noticed the leaves sometimes to have foot-stalks, and we have for several years cultivated a large variety of this plant, which from one root has extended its stalks nearly a yard every way, and though they have lain close to the ground, on a moist soil, we never could perceive the least tendency in them to throw out roots at the joints; hence we are induced to conclude, that no other than one species of Tormentil exists.

As the Tormentil varies with five petals, so the *Potentilla reptans* has sometimes only four, and, perhaps, a starved specimen of the latter, originally gave rise to the *Tomentilla reptans*.

This occasional variation in the number of the petals, &c. at once destroys the generic character of the Tormentil; for, add one-fifth part more of the fructification to those which already exist in the *Tomentilla*, and you make a *Potentilla* of it; or vice versa, take one fifth-part of the fructification from a *Potentilla* and it becomes a *Tomentilla*; they ought surely then to form but one genus: SCOPOLI unites them, facetiously remarking, *Monoculum Hominem ab humano genere quis separabit*: HALLER joins the *Potentilla*, *Tomentilla*, *Fragaria*, and *Sibbaldia*, in one family.

CISTUS HELIANTHEMUM. DWARF CISTUS.

CISTUS Lin. Gen. Pl. POLYANDRIA MONOGYNIA.

Cor. 5-petala. Cal. 5-phyllo; foliolis duobus minoribus. Capsula.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CISTUS *Helianthemum* suffruticosus procumbens, stipulis lanceolatis, foliis oblongis revolutis subpilosis.
Lin. Syst. Vegetab. Sp. Pl. 744. Fl. Suec. n. 472.

CISTUS foliis conjugatis, ellipticis, hirsutis, integerrimis, petiolis unifloris, subhirsutis. Hall. Hist. 1033.

CISTUS *Helianthemum*. Scopoli Fl. Carn. n. 649.

CHAMÆ CISTUS vulgaris flore luteo. Baub. Pin. 465.

HELIANTHEMUM Anglicum luteum. Ger. em. 1282.

HELIANTHEMUM vulgare. Parkins. 656. Raii Syn. p. 341. Dwarf Cistus, or little Sun-Flower.
Hudson Fl. Angl. ed. 2. p. 233. Lightfoot Fl. Scot. p. 281. Oeder Fl. Dan. 101.

RADIX perennis, sublignosa, fusca.

ROOT perennial, somewhat woody and brown.

CAULES plurimi, suffruticosi, procumbentes, teretes, inferne glabri, superne hirsutuli, saepius rubicundi.

STALKS numerous, somewhat shrubby, procumbent, round, below smooth, above slightly hairy, most commonly reddish.

FOLIA opposita, brevissime petiolata, oblongo-ovata, acutiuscula, marginibus subrevolutis, superne saturate viridia, scabriuscula, subpilosa, pilis furcatis, inferne subtomentosa, fig. 1.

LEAVES opposite, standing on very short foot-stalks, of an oblong ovate shape, somewhat pointed, the edges slightly rolled back, on the upper side of a deep green colour, roughish, and somewhat hairy, the hairs forked, on the under side a little downy, fig. 1.

STIPULÆ quaternæ, lanceolatæ, pilosæ.

STIPULÆ growing four together, lanceolate, and hairy.

CALYX : PERIANTHIUM pentaphyllum, persistens, foliolis tribus superioribus ovatis, obtusiusculis, membranaceis, subdiaphanis, æqualibus, concavis, trinervibus, nervis coloratis, hirsutulis, duobus inferioribus minimis, lateralibus hirsutis, fig. 2, 3.

CALYX : a PERIANTHIUM of five leaves and permanent, the three uppermost ones ovate, bluish, membranous, somewhat transparent, equal, concave, three-ribbed, the ribs coloured and hairy, the two lowermost very small, lateral, and hairy, fig. 2, 3.

COROLLA : PETALA quinque obcordata, flava, margin exteriore crenulata, fig. 4.

COROLLA : five PETALS inversely heart-shaped, of a yellow colour, the outer edge slightly notched, fig. 4.

STAMINA : FILAMENTA numerosa, capillaria, flava, receptaculo supra calycem inserta. ANTHÈRE subrotundæ, parvæ, flavæ, fig. 5.

STAMINA : FILAMENTS numerous, capillary, yellow, inserted into the receptacle above the calyx. ANTHÈRE roundish, small, and yellow, fig. 5.

PISTILLUM : GERMEN subrotundum. STYLUS longitudine staminum, superne crassior, inferne saepius curvatus. STIGMA capitatum, planum, fig. 6.

PISTILLUM : GERMEN roundish. STYLE the length of the stamens, thicker in its upper part, and crooked below. STIGMA forming a little flat head, fig. 6.

PERICARPIUM : CAPSULA subrotunda, calyce tecta, unilocularis, trivalvis, fig. 7.

SEED-VESSEL : a roundish CAPSULE, covered with the calyx, of one cavity and three valves, fig. 7.

SEMINA plurima, majuscula, ovato-acuta, rufa, fig. 8.

SEEDS numerous, rather large, ovate, pointed, and of a reddish brown colour, fig. 8.

Most of the plants of the Cistus tribe are highly esteemed for their beauty, and generally cultivated in the gardens of the curious. Though our present species cannot vie with many of those which are the produce of warmer climates, yet it is one of the most ornamental of our native plants, and admirably well calculated to decorate a rock or dry bank, especially if its several varieties with white, rose, and lemon-coloured flowers be intermixed. The particular merit of this plant is, that it is hardy, easily propagated, either by seeds or cuttings, and continues for the greatest part of the summer to put forth daily a multitude of new blossoms.

Mr. LAWSON is said by Mr. RAY to have found it producing white flowers. I have myself observed a wild variety with pale yellow blossoms. A variety with double flowers is mentioned by HALLER, which, if it could be procured, would be a valuable acquisition to our gardens. LINNÆUS has remarked, that the petals sometimes have an orange-coloured spot at their base; and the leaves have been observed to vary much in breadth.

In chalky soils the *Cistus Helianthemum* is extremely common; but as that does not abound in the neighbourhood of London, it is consequently scarce with us.

On a close examination of the hairs on the leaves we discovered them to be forked; a character which may, perhaps, contribute to distinguish it from the *polifolia*, to which it seems very nearly related.

It flowers from June to August.





Papaver dubium.

PAPAVER DUBIUM. LONG-SMOOTH-HEADED POPPY.

PAPAVER Linn. Gen. Pl. POLYANDRIA MONOGYNIA.

Cor. 4-petala. Cal. 2-phyllus. Capsula 1-locularis, sub stigmate persistente poris dehiscens.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

PAPAVER *dubium* capsulis oblongis glabris, caule multifloro setis adpressis, foliis pinnatifidis incisis.
Linn. Syt. Vegetab. p. 407. Sp. Pl. 726. Fl. Suec. n. 467.

PAPAVER foliis hispidis, pinnatis, pinnis lobatis, fructu ovato lævi. Haller. Hist. n. 1063.

PAPAVER erraticum capite longissimo glabro. Tourn. Inst. 238.

PAPAVER laciniato folio, capitulo longiore glabro, seu Argemone capitulo longiore glabro. Mor. H. R. Bl. H. Ox. II. 279. S. III. t. 14. fig. 11. Raii Syn. p. 309. Smooth-headed Bastard-Poppy. Hudson. Fl. Angl. p. 231. Lightfoot Fl. Scot. p. 280.

This plant, in its general appearance, is so very similar to the *Papaver Rhæas*, as often to be overlooked and mistaken for that species. Were the flowers white, as JACQUIN informs us they constantly are in Austria, the two plants would be much more obviously distinguished; but, fortunately, it has a few characters which always point it out to the attentive observer. These are principally drawn from the Capsules and Flower-stalks; the Capsules of the *Rhæas* are broad and short, somewhat resembling one-half of an egg cut transversely: those of the *dubium* are long and slender. Such is the general appearance of the two Capsules, which, however, are subject to considerable variation. In the *Rhæas*, the hairs on the Flower-stalk are strong, rigid, and spread horizontally; in the *dubium* they are finer, and pressed upward close to the stalk*. On the young Flower-stalks, they assume a shining, silvery-white appearance, which looks very beautiful. Below the Flower-stalks, on the other parts of the plant, the hairs spread out. In this last character we do not recollect to have ever been deceived. Besides these, which are the principal differences, the stalks and leaves of the *dubium* are much paler: the flowers are also much smaller, and less intensely red.

Culture produces no alteration in the constancy of its characters.

In Battersea-Fields, where the soil is light, the *dubium* is nearly as common, and as much of a weed, as the *Rhæas*; nor is it unfrequent on walls, in the environs of the Metropolis; according to Mr. LIGHTFOOT, it is the most common species in North-Britain.

In a corn field, betwixt Croydon and Shirley-Common, we once noticed several specimens of this poppy with very large Capsules, which, if we mistake not, were diseased.

It flowers in June.

* JACQUIN'S figure represents the hairs of the Flower-stalks reversed, and the leaves too finely divided.

PAPÁVER ARGEMÓNE. LONG PRICKLY-HEADED POPPY.

PAPAVER Linn. Gen. Pl. POLYANDRIA MONOGYNIA.

Cor. 4-petala. Cal. 2-phyllus. Capsula 1-locularis, sub stigmate persistente poris dehiscentia.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

PAPAVER *Argemone* capsulis clavatis hispidis, caule folioso multifloro. *Linn. Syst. Vegetab.* p. 407. *Spec. Pl. 725. Fl. Suec. n. 466.*

PAPAVER foliis hispidis, pinnatis, pinnis lobatis, capitulis ellipticis, hispidis. *Haller Hist. n. 1063.*

PAPAVER *Argemone*. *Scopoli Fl. Carn. n. 636.*

ARGEMONE capitulo longiore. *C. Bauh. Pin. 172. Ger. emac. 273. Park. 370.*

PAPAVER laciniato folio, capitulo hispido longiore. *Raii Syn. p. 308. Long rough-headed bastard Poppy. Hudson Fl. Angl. ed. 2. p. 230. Lightfoot Fl. Scot. p. 279.*

RADIX annua, simplex, fibrofa.

CAULIS: ubi læte crescit caules profert plures, pedales, et ultra, foliosos, adscendentes, hirsutos, inter segetes vero caule solitario erecto saepius gaudet.

FOLIA radicalia plurima, longe petiolata, pinnata, pinnis inciso-dentatis, dentibus mucronatis, caulina tripartita, pinnatifida, omnibus pilosis, superne saturate viridibus, nitidis, inferne pallidioribus.

PEDUNCULI pilosi, pilis adpressis.

CALYX: PERIANTHIUM diphylum, seu triphyllum, deciduum, papilloso-hispidum.

COROLLA: PETALA quatuor, miniata, suberecta, remotiuscula, obverse ovata, apice crenulata, basi nigricantia, maxime caduca, fig. 1.

STAMINA: FILAMENTA viginti circiter, purpurea, plana, apice dilatata, nitida. ANTERÆ brevissime pedicellatae, bilocularis. POLLEN cærulescens, fig. 2. auct. fig. 3.

PISTILLUM: GERMEN longitudine filamentorum, clavatum, subangulatum, hispidum, pilis canis, adpressis. STIGMATICI radii 3 ad 5 villosi, cærulecentes, fig. 4.

PERICARPIUM: CAPSULA oblonga, clavata, subangulosa, hispida, inferne nudiuscula, purpurascens, fig. 5.

SEMINA plurima, minuta, nigricantia, fig. 6, 7.

ROOT annual, simple, and fibrous.

STALK: where the plant grows luxuriantly, it puts forth several leafy, hairy stalks, a foot or more in height, and bending upwards; but among corn it is most commonly found with a single upright stem.

LEAVES next the root numerous, standing on long foot-stalks, pinnated, the pinnæ deeply indented, the teeth terminating in a short point, those of the stalk deeply divided into three segments which are pinnatifid, all the leaves are hairy, on the upper side of a deep green colour, and shining, on the underside paler.

FLOWER-STALKS hairy, hairs pressed close to the stalk.

CALYX: a PERIANTHIUM composed of two or three leaves, deciduous, hispid, the hairs issuing from small papillæ or prominent points.

COROLLA: four PETALS, of a scarlet colour nearly upright, a little distant from each other, inversely ovate, finely notched at top, and blackish at the base, fig. 1.

STAMINA: about twenty FILAMENTS, of a purple colour, flat, dilated at top, and shining. ANTERÆ standing each on a very short foot-stalk, having two cavities. POLLEN blueish, fig. 2. one of the stamina magnified, fig. 3.

PISTILLUM: GERMEN the length of the filaments, the thickest at top, somewhat angular, hispid, the hairs grey and pressed to it. STIGMA composed of 3 to 5 villous rays, of a blueish colour, fig. 4.

SEED-VESSEL: an oblong, club-shaped CAPSULE, somewhat angular, hispid, below for the most part naked, of a purplish colour, fig. 5.

SEEDS numerous, minute, and blackish, fig. 6, 7.

This species of Poppy is distinguished by a variety of particulars besides its long prickly heads, which, though not absolutely necessary to discriminate the species, are well worthy of our attention. The divisions of the leaves are finer than in any of the other poppies. The petals in general grow more upright; and, instead of having the edges falling over each other, are usually a little distant. The stamina are very remarkable, having the filaments uncommonly dilated towards the top, not at the base, as HALLER asserts; and the Antheræ stand on a very slender foot-stalk placed on the top of each filament.

Like most of the other poppies it usually grows in corn-fields, and is not very unfrequent in the neighbourhood of London. About the beginning of June it blossoms in Battersea-Fields; but is often overlooked from the extreme fugacity of its petals, which rarely continue expanded more than six hours.

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Papaver Argemone.

J. Sowerby del. et sculp.

ORIGANUM VULGARE. WILD MARJORAM.

ORIGANUM. Lin. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.

Strobilus tetragonus, spicatus, calyces colligens, fig. 6.

Raii Synop. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

ORIGANUM *vulgare* spicis subrotundis paniculatis conglomeratis, bracteis calyce longioribus ovatis. Lin. Syst. Vegetab. p. 452. Spec. Pl. p. 824. Fl. Suec. n. 534.

ORIGANUM foliis ovatis, umbellis coloratis, staminibus exsertis. Haller Hist. n. 233.

ORIGANUM *vulgare*. Scopoli Fl. Carn. n. 740.

ORIGANUM sylvestre. Baub. pin. 223.

ORIGANUM anglicum. Ger. emac. 666.

MAJORANA sylvestris. Park. 12.

ORIGANUM *vulgare* spontaneum. Baub. Hist. III. 236.

Raii Syn. 236. Wild Marjoram. Hudson Fl. Engl. ed. 2 p. 262. Lightfoot Fl. Scot. p. 317.

RADIX perennis, repens, horizontalis, fusca, plurimis fibris capillata.	ROOT perennial, creeping, horizontal, brown, tufted with numerous fibres.
CAULIS pedalis, ad sesquipedalem, erectus, tetragonus, purpurascens, pubescens, ramosus.	STALK, a foot or a foot and a half high, upright, four cornered, purplish, downy, and branched.
RAMI oppositi, erecti, caule teneriores, in cæteris conformes.	BRANCHES opposite, upright, more tender than the stalk, in other respects similar.
FOLIA ad genicula, opposita, petiolata, ovata, acuta, minutim et rarer dentata, supra glabriuscula, subtus pubescentia, utrinque punctata, marginem minutim ciliata, patentia.	LEAVES placed at the joints, opposite, standing on foot-stalks, ovate, pointed, finely and rarely toothed, above nearly smooth, beneath downy, dotted on both sides, the edge finely fringed, spreading.
PETIOLI pubescentes.	PETIOLE-STALKS downy.
AXILLÆ foliorum in planta culta foliolis onustæ.	AXILLES of the leaves, in the cultivated plant, bearing numerous small leaves.
FLORES paniculati, <i>panicula</i> e spicis plurimis, subrotundis, conglomeratis composita.	FLOWERS forming a panicle, composed of numerous roundish spikes, growing in clusters.
BRACTÆ ovato-lanceolatae, sessiles, concavæ, integræ, corollâ intensius coloratæ, ad lentem pubescentes, floribus subjectæ singulæ, fig. 1.	FLORAL-LEAVES ovato-lanceolate, sessile, concave, entire, more deeply coloured than the corolla, appearing downy when magnified, placed one under each flower, fig. 1.
CALYX: PERIANTHUM monophyllum, tubulatum, striatum, subpubescens, pedicellatum, longitudine fere bracteæ, ore barbato, quinquefido, laciniis acutis, erectis, æqualibus, purpureis, fig. 2.	CALYX: A PERIANTHUM of one leaf, tubular, striated, slightly downy, standing on a short foot-stalk, and almost the length of the floral-leaf, the mouth bearded, divided into five, pointed, upright, equal, purple segments, fig. 2.
COROLLA infundibuliformis, purpurea, <i>tubus</i> villosus, sensim sursum ampliatus, calyce longior, <i>limbus</i> bilabiatus, <i>labium superius</i> erectum, bifidum, obtusum, <i>inferius</i> trifidum, patens, obtusum, fig. 3.	COROLLA funnel-shaped, purple, the tube villous, gradually enlarged upwards, longer than the calyx, the limb composed of two lips, the upper lip upright, bifid and obtuse, the lower lip trifid, spreading and obtuse, fig. 3.
STAMINA: FILAMENTA quatuor, purpurea, corollâ paulo longiora, duobus inferioribus paulo longioribus; ANTHERÆ didymæ, saturatius coloratae, fig. 4.	STAMINA: four purple FILAMENTS, a little longer than the corolla, the two lowermost somewhat the longest; ANTHERÆ double, and more deeply coloured, fig. 4.
PISTILLUM: GERMEN quadripartitum; STYLUS filiformis, corollâ longior; STIGMA bifidum, acutum, revolutum, fig. 5.	PISTILLUM: GERMEN divided into four parts. STYLE filiform, longer than the corolla; STIGMA bifid, pointed, and turned back, fig. 5.
SEMINA quatuor, ovata, in finu calycis conniventis.	SEEDS four, ovate, in the bottom of the calyx, which closes over them.

This aromatic and ornamental plant, grows wild on dry chalky hills, and gravelly ground, in most parts of Great-Britain, though sparingly in the vicinity of London.

It flowers in July and August.

The leaves and flowery tops of Origanum have an agreeable aromatic smell, and a pungent taste, warmer than that of the Garden Marjoram, and much resembling Thyme; with which they appear to agree in medicinal virtue. Infusions of them are sometimes drank as tea, in weakness of the stomach, disorders of the breast, for promoting perspiration, and the fluid secretions in general; they are sometimes used also in nervine and antirheumatic baths; and the powder of the dried herb as an errhine. Distilled with water, they yield a moderate quantity of a very acrid and penetrating essential oil, smelling strongly of the Origanum, but less agreeable than the herb itself: this oil is applied on a little cotton for easing the pains of carious teeth; and sometimes diluted and rubbed on the nostrils, or snuffed up the nose, for attenuating and evacuating mucous humours. Lewis M. Med. p. 469.

It dyes linen cloth of a reddish brown colour; for this purpose the linen is first macerated in alum water and dried; it is then soaked for two days in a decoction of the bark of the crab-tree; it is wrung out of this, boiled in a ley of ashes, and then suffered to boil in the decoction. Haller Hist. Helv. p. 102.

According to LINNÆUS, it dyes woollen cloth also of a purple colour; is sometimes used as a succedaneum for tea, and added to beer to make it more quickly intoxicate, as likewise to prevent it from too quickly turning sour.



Origanum vulgare.

J. Sowerby del. et sculp.

TEUCRIUM SCORODONIA. SAGE-LEAVED GERMANDER, or WOOD SAGE.

TEUCRIUM Linn. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.

Corollæ labium superius (nullum) ultra basin bipartitum, divaricatum ubi itamina.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

TEUCRIUM *Scorodonia* foliis cordatis ferratis petiolatis, racemis lateralibus secundis, caule erecto.
Linn. Syst. Vegetab. p. 440. Sp. Pl. 789.

CHAMÆDRYS foliis cordatis productis, spicis longissimis nudis heteromallis. *Haller. Hist. n. 287.*

TEUCRIUM *Scorodonia*. *Scopoli Fl. Carn. n. 721.*

SCORDIUM alterum sive *Salvia agrestis*. *Bauh. Pin. 247.*

SCORODONIA sive *Salvia agrestis*. *Ger. em. 662.*

SCORODONIA Scordium alterum quibusdam et *Salvia agrestis*. *Park. 111. Raii Syn. 245. Hudson. Fl. Angl. p. 248. Lightfoot Fl. Scot. p. 303. Fl. Dan. t. 485.*

RADIX perennis, lignosa, subrepens.

CAULES plures, fesquipedales, bipedales et ultra, suberecti, tetragoni, duri, purpurei, hirsuti.

FOLIA opposita, petiolata, cordato-oblonga, plerumque obtusa, saepe tamen acutiuscula, *Salviæ* instar venosa, utrinque hirsutula, obtuse et inæqualiter ferrata.

PETIOLI hirsuti.

FLORES straminei, racemosi, secundi, racemis oppositis, longis, nudis, terminali duplo fere longiore.

BRACÆA ovato-acuminata, singulo flori subjecta.

CALYX: PERIANTHIUM monophyllum, tubulosum, basi inferne gibbosum, labio superiore erecto, integro, aut obsolete trilobo; inferiore quadridentato, dentibus subæqualibus, fig. 1.

COROLLA monopetala, ringens; *Tubus cylindraceus*, brevis; *Labium superius* ultra basin profunde bipartitum, dittantibus ad latera laciniis; *Labium inferius* patens, trifidum, laciniis lateralibus figura labii superioris, media maxima, subrotunda, fig. 2.

STAMINA: FILAMENTA quatuor, quorum duo longiora, purpurea, pilosa, primo erecta, conniventia, postea reflexa, et disjuncta. ANTHÆ flavæ, fig. 3.

PISTILLUM: GERMEN quadripartitum. STYLUS filiformis. STIGMATA duo, tenuia, fig. 4.

SEMINA quatuor, subrotunda, nigricantia, nitida, pilis transversis rigidis fere testa, in fundo calycis, ad debitam usque maturitatem detenta, fig. 5.

ROOT perennial, woody, and somewhat creeping.

STALKS several, a foot and a half, two feet high, and more, nearly upright, four-cornered, hard, purple, and hairy.

LEAVES opposite, standing on foot-stalks; of an oblong heart-shape, generally obtuse, but often a little pointed, veiny like sage, a little hairy on each side, obtusely and unequally serrated.

LEAF-STALKS hairy.

FLOWERS straw-coloured, growing all one way, on long, opposite, naked racemi, the terminal one of which is almost twice as long as the rest.

FLORAL-LEAF ovate, pointed, and placed under each flower.

CALYX: a PERIANTHIUM of one leaf, tubular, on the under side gibbous at the base, the upper lip upright, entire or faintly three-lobed; the lower lip furnished with four teeth, which are nearly equal, fig. 1.

COROLLA monopetalous and ringent; *Tube cylindrical* and short; upper *Lip* deeply divided beyond the base, segments standing wide; lower *Lip* spreading, trifid, lateral segments the same shape as the segments of the upper lip, the middle one very large and roundish, fig. 2.

STAMINA: four FILAMENTS, two of which are longer than the rest, purple and hairy, at first upright, and closing together, afterwards turned back, and separated. ANTHÆ yellow, fig. 3.

PISTILLUM: GERMEN quadripartite. STYLE filiform. STIGMATA two, slender, fig. 4.

SEEDS four, nearly round, blackish, shining, almost covered with cross rigid hairs, and kept in the bottom of the calyx till they have acquired a proper degree of ripeness, fig. 5.

The Wood-sage, or more properly sage-leaved Germander, delights to grow in woody and hilly situations, among bushes, and under hedges, where the soil is dry and stony; and in such places it is not only common with us, but frequent in most parts of Great-Britain.

It flowers in July, August, and September.

Its leaves much resemble those of Sage, from which circumstance, and not from any botanical or medical affinity, it receives its name.

As a medicinal plant, it has never been highly celebrated. LEWIS omits it in his *Materia Medica*, but retains it in his *Dispensatory*: in smell, taste, and medical virtues, he says, it comes nearer to *Scordium* than Sage. RUTTY relates a case of Vertigo, brought on by the odour which arose from frequently handling the herb in the distillation of it. He ascribes to it the smell of the Hop, in lieu of which, he says, it may be substituted in making beer: and that, when boiled in the wort, the beer sooner becomes clear than when hops are made use of. Its virtues, in this respect, are highly extolled by the Rev. P. LAURENTS, of Bury *. We have only to wish, that experiment may justify the encomiums of our learned and benevolent friend.

" Seeing so much fine ground under costly hops, which, it must be owned, had very large and verdant leaves, " I could not but repine at the expence of foil, poles, dung, and labour, bestowed on this plant, especially " when there is great reason to suppose, that the *Teucrium Scorodonia* would better answer the purpose. Of " this plant I can so far say, that in smell and taste it resembles Hops. The name by which it goes in some " authors is *Ambroisia*, a name announcing something immortal and divine; and to this day, *Ambroise* is the " appellation by which it goes among the common people in the island of Jersey. Here, when Cyder, the " common beverage, has failed, I have known the people malt each his barley at home, and, instead of Hops, " use to very good purpose, the *Ambroise* of their hedges.

" It is my ardent wish, I own, to see justice done to the neglected merits of this ambrosial plant; but should " indolence, prejudice, or private interest, obstruct the introduction of it into use, let me at least intreat Brewers " to honour it with their notice, in preference to any unpalatable and unwholesome substitute they may have " occasion to use in lieu of Hops."

* Vide Tour through Flanders, &c. published in the fourth number of Mr. YOUNG's Annals of Agriculture.



Teucrium Scorodonia.

ANTIRHINUM MINUS. THE LEAST TOAD-FLAX.

ANTIRRHINUM Linn. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.

Cal. 5-phyllo. Corollæ basis deorsum prominens, nectarifera.
Capsula 2-locularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM minus foliis plerisque alternis lanceolatis obtusis, caule ramosissimo diffuso. Linn.
Syst. Vegetab. p. 466. Sp. Pl. p. 852. Fl. Suec. p. 502.

ANTIRRHINUM viscidum foliis inferioribus conjugatis ellipticis obtusis hirsutis, calcare dimidii
floris longitudine. Haller. Hist. n. 335.

ANTIRRHINUM minus. Scopoli Fl. Carn. n. 769.

ANTIRRHINUM arvense minus. Bauh. Pin. 212.

ANTIRRHINUM minimum repens. Ger. emac. 549.

ANTIRRHINUM sylvestre minimum. Parkins. 1334.

LINARIA Antirrhinum dicta. Raii Syn. p. *283. The least Calf's Snout or Snap-dragon. Hudson.
Fl. Angl. ed. 2. p. 272. Oeder. Fl. Dan. t. 532.

RADIX annua, simplex, fibrofa.

ROOT annual, simple, and fibrous.

CAULIS eretus, spithameus, seu dodrantalis, ad
basim usque ramosus, teres, ramis inferioribus
oppositis, superioribus alternis.

STALK upright, from five to nine inches in height,
branched down to the bottom, round; the
lowermost branches opposite, the uppermost
alternate.

FOLIA ut ut tota planta villosa, subviscosa, inferiora
opposita, patentia, subspatulata, superiora alterna,
recurvata, linear-lanceolata, obtusa.

LEAVES as well as the whole plant villous, and some-
what viscid, the lower ones opposite, spreading,
somewhat spatula-shaped, the upper ones
alternate, bent back, betwixt linear and lan-
ceolate, the extremity obtuse.

FLORES parvi, solitarii, alterni, pedunculati, pedun-
culis erectis.

FLOWERS small, solitary, alternate, standing on up-
right foot-stalks.

CALYX: PERIANTHUM quinque partitum, persis-
tens, laciniis linearibus, subæqualibus, corolla
brevioribus, fig. 1.

CALYX: a PERIANTHUM deeply divided into five
segments, which are linear, nearly equal,
shorter than the corolla, and permanent, fig. 1.

COROLLA monopetala, tubus superne purpureus,
inferne maculis duabus parallelis, purpureis
notatus, calcar brevissimum subulatum pur-
purascens, labium superius bifidum, inferne
albidum, inferius trifidum, album; palatum
villosum, flavescens, fig. 2.

COROLLA monopetalous, the tube on the upper side
purple, underneath marked with two parallel
purple spots, spur very short and tapering,
of a purplish colour, the upper lip bifid, on
the underside whitish, the lower trifid and
white, the palate villous and yellowish, fig. 2.

STAMINA: FILAMENTA quatuor, alba. ANTHERÆ
nigricantes. POLLEN album.

STAMINA: four white FILAMENTS. ANTHERÆ
blackish. POLLEN white.

PISTILLUM: GERMEN subovatum, viscidum, rufef-
cens. STYLUS filiformis, superne purpureus.
STIGMA simplex, album.

PISTILLUM: GERMEN somewhat ovate, viscid, and
of a reddish brown colour. STYLE filiform,
on the upper part purplish. STIGMA simple
and white.

PERICARPIUM: CAPSULA ovata, apice dehiscens.

SEED-VESSEL, an ovate CAPSULE opening at top.

Botanists have distinguished this species by the names of *minus* and *minimum*, as being the most diminutive
of the genus. It may also be considered as one of the least ornamental.

It is chiefly found in corn fields, especially where the soil is sandy. We have occasionally noticed it in
Battersea-Fields with the *Orontium*; but in many parts of Kent it grows much more plentifully.

We know of no use to which it is applicable; and it is too diminutive a plant to do much harm where it is
most abundant.

Introduced into the garden, it comes up annually without any care, nor is it easily lost.

It branches and spreads according to the luxuriance of the soil, and frequently grows to a much greater size
than our figure represents.

It flowers from June to August.

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Antirrhinum minus.

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Euphrasia officinalis.

J. Sowerby del. et sculp.

EUPHRASIA OFFICINALIS. COMMON EYEBRIGHT.

EUPHRASIA. Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.

Cal. 4-fidus, cylindricus. Caps. 2-locularis, ovato-oblonga. Antheræ inferiores altero lobo basi spinosæ.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

EUPHRASIA officinalis foliis ovatis lineatis argute dentatis. Lin. Syst. Vegetab. p. 460. Sp. Pl. p. 481. Fl. Suec. n. 543. Haller Hist. 303.

EUPHRASIA officinalis. Scopoli Fl. Carn. n. 753.

EUPHRASIA officinarum. Baub. pin. 233. Ger. emac. 663. Parkins. 1329. Raii Syn. p. * 284. Eyebright, Hudson Fl. Angl. ed. 2 p. 268. Lightfoot Fl. Scot. p. 323.

RADIX annua, fibrosa, albida.

CAULIS biplicaris ad palmarem et ultrâ, erectus, teres, pubescens, purpureus, plerumque ramosus.

FOLIA opposita, ovata, obtusa, ferrato-dentata, dentibus acuminatis, supra convexis, subtus concavis, minutim ciliatis, utrinque hirsutula, supra nitidula, lineata, subtus venosa.

RACEMUS terminalis, foliaceus, erectus, floribus axillaribus, oppositis, sessilibus.

CALYX: PERIANTHUM monophyllum, ovatum, angulum, persistens, foliis paulo brevius, pubescens, quadrifidum, laciniis lanceolatis, acuminatis, erectis, ciliatis, subæqualibus, fig. 1.

COROLLA monopetala, alba, ringens; *Tubus cylindricus, albus, glaber, longitudine calycis, fig. 2. Limbus bilabiatus; Labium superius album, subovatum, concavum, pubescens, striis cærulecentibus utrinque 3, intus pictum, obtusum, erectum, bifidum, lobis emarginatis, fig. 3; inferius superiori paulo majus, trifidum, laciniis omnibus emarginatis, fig. 4. Faux undique striata, et picta striis cærulecentibus, antice vero colore luteo.*

STAMINA: FILAMENTA quatuor, subulata, purpurascens, tubo inserta, fig. 5. ANTHERÆ purpureæ, bilobæ, obtusæ, subtus barbatæ, conniventes, lobis spinula terminatis, duabus inferioribus longioribus, fig. 6, 7.

PISTILLUM: GERMEN ovatum, obtusum, barbatum, fig. 8. STYLUS filiformis, superne pubescens, fig. 9. STIGMA obtusum, integrum, fig. 10.

PERICARPIUM: CAPSULA ovato-oblonga, compressa, obtusa, mucronata, bilocularis, fig. 11.

SEMINA plurima, albida, striata, fig. 12.

ROOT annual, fibrous, and whitish.

STALK from two to four inches high, or more, upright, round, hoary, purple, for the most part branched.

LEAVES opposite, ovate, obtuse, serrated or indented, teeth pointed, above convex, beneath concave, finely edged with hairs, slightly hirsute on each side, above somewhat glossy, with lines impressed, underneath veiny.

RACEMUS terminal, leafy, upright, flowers in the alæ of the leaves, opposite and sessile.

CALYX: a PERIANTHUM of one leaf, ovate, angular, permanent, a little shorter than the leaves, pubescent, divided into four segments, which are lanceolate, long-pointed, upright, edged with hairs, and nearly equal, fig. 1.

COROLLA monopetalous, white, ringent; *Tube cylindrical, white, smooth, the length of the calyx, fig. 2. Limb two-lip'd; upper Lip white, somewhat ovate, hollow, downy, painted on the inside with three blueish streaks on each side, blunt, upright, bifid, the lobes emarginate, fig. 3; the lower lip somewhat larger than the upper, trifid, all the segments emarginate, fig. 4. Mouth striated all round, and painted with blueish streaks, but anteriorly of a yellow colour.*

STAMINA: four tapering, purplish FILAMENTS inserted into the tube of the corolla, fig. 5. ANTHERÆ purple, two-lob'd, obtuse, bearded underneath, closing together, the lobes terminating in a spine, the two lowermost the longest, fig. 6, 7.

PISTILLUM: GERMEN ovate, obtuse, bearded, fig. 8. STYLE, filiform, downy, on the upper part, fig. 9. STIGMA blunt, and entire, fig. 10.

SEED-VESSEL: an ovate, oblong CAPSULE, flattened, obtuse, with a short point, of two cavities, fig. 11.

SEEDS several, whitish, and striated, fig. 12.

Eyebright is a very common plant on heaths, and pastures, especially where the soil is chalky; it varies much in size and in the branchedness of its stalk, as well as in the colour and size of its blossoms, and flowers from July to September.

Many writers on the Materia Medica, ascribe to this plant wonderful efficacy in disorders of the Eyes; ALSTON says, it has been long reckoned a specific ophthalmic, and commended for dim, weak, and watery eyes, for inflamed and sore eyes, for cataracts, &c. yea, it is said to make old eyes become young again, and the blind to see. MILTON, who most probably from his own misfortune, had been induced to look into books of this sort, thus mentions it:

“ but to nobler sights
“ Michael from Adam's eyes the film remov'd,
“ Which that false fruit that promis'd clearer sight
“ Had bred; then purg'd with euphrasy and rue
“ The visual nerve, for he had much to see.”

On the other hand, there are not wanting those who condemn its use, especially in inflammatory complaints of the eyes; a friend of LOBEL's is said nearly to have lost his eyesight by the use of it. In such contrariety of sentiment, it will, perhaps, be most prudent not to lay too much stress on so doubtful a remedy.

RHINANTHUS CRISTA GALLI. YELLOW RATTLE.

RHINANTHUS Linn. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.

Cal. 4-fidus, ventricosus. Capsula 2-locularis, obtusa, compressa.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

RHINANTHUS *Crista Galli* corollis labio superiore compresso breviore. Linn. Syst. Vegetab. p. 459.
Spp. Pl. p. 840. Fl. Suec. 542.

ALECTOROLOPHUS calycibus glabris. Haller Hist. 313.

MIMULUS *Crista Galli*. Scopoli Fl. Carn. n. 751.

PEDICULARIS pratinis lutea vel *Crista Galli*. Bauh. Pin. 163.

CRISTA GALLI fœmina. I. B. III. 436.

CRISTA GALLI. Ger. emac. 1071.

PEDICULARIS seu *Crista Galli* lutea. Park. 713. Yellow Rattle or Cocks-Comb. Raii Syn. * 284.
Hudson Fl. Angl. ed. 2. p. 268. Lightfoot Fl. Scot. p. 322.

RADIX annua, simplex, albida, parum fibrosa.

ROOT annual, simple, whitish, furnished with few fibres.

CAULIS pedalis circiter, erectus, simplex, seu ramosus, quadrangulus, glaber, purpureo maculatus.

STALK about a foot high, upright, simple, or branched, square, smooth, and spotted with purple.

FOLIA opposita, remotiuscula, sessilia, cordato-lanceolata, obtusiuscula, venosa, lœvia, subitus tuberculis albidis pulchre reticulata, ferrata, ferraturis margine crassis et subinvolutis.

LEAVES opposite, rather remote from each other, sessile, lanceolate with a heart-shaped base, bluntnish, veiny, smooth, underneath beautifully reticulated with white tubercles, sawed, the notches thick on the edge, and somewhat rolled back.

BRACTEÆ oppositæ, magnæ, foliis similes at basi latiores, et profundius incisæ, ferraturis acuminatis.

FLORAL-LEAVES opposite, large, like the leaves, but broader at the base, and more deeply cut in, the notches pointed.

FLORES flavi, spicati, pedunculis brevissimis insidentes.

FLOWERS yellow, growing in a spike, and sitting on very short foot-stalks.

CALYX: PERIANTHIUM monophyllum, subrotundum, inflatum, compressum, quadridentatum, dentibus æqualibus, pallide virens, venosum, persistens, fig. 1.

CALYX: a PERIANTHIUM of one leaf, roundish, inflated, flattened, having four equal teeth, of a pale green colour, and permanent, fig. 1.

COROLLA monopetala, ringens. *Tubus* subcylindraceus, longitudine calycis; *labium* superius galeatum, compressum, emarginatum, margine anteriori utrinque violaceo; *labium* inferius trifidum, laciniis lateralibus planis, rugosis, intermedia majori, marginibus involutis, fig. 2.

COROLLA monopetalous, ringent. *Tube* somewhat cylindrical, the length of the calyx; the upper *lip* helmet-shaped, flattened, with a notch on the end, the anterior edge blueish on each side, the lower *lip* trifid, the lateral segments flat and wrinkled, the middle one largest, the edges rolled inward, fig. 2.

STAMINA: FILAMENTA quatuor, longitudine labii superioris, sub quo recondita, quorum duo breviora. ANTHÈRAE incumbentes, hinc bifidæ, hirsutæ, fig. 3.

STAMINA: four FILAMENTS, the length of the upper lip, under which they lie hid, two of which are shorter than the others. ANTHÈRAE incumbent, at one end bifid, and hairy, fig. 3.

PISTILLUM: GERMEN ovatum, compressum, glabrum. STYLUS filiformis, staminibus longior.

PISTILLUM: GERMEN ovate, flattened, smooth. STYLE filiform, longer than the stamens.

STIGMA obtusum, inflexum, fig. 4.

STIGMA blunt, and bent downwards, fig. 4.

PERICARPIUM: CAPSULA orbiculata, mucronata, compressa, bilocularis, bivalvis, fig. 7.

SEED-VESSEL: a round, flat CAPSULE of two cavities and two valves, terminating in a short point, fig. 7.

SEMINA plurima, majuscula, compressa, subreniformia, libera, fig. 8.

SEEDS several, rather large, flattened, somewhat kidney-shaped, and loose, fig. 8.

The seeds of this plant, when ripe, rattle in the husks, and hence its name. LINNÆUS informs us, that this circumstance guides the Swedish peasant in mowing his grass for hay. In the neighbourhood of London hay-making commences while this plant is in full bloom.

It abounds in most of our pastures, and flowers early in June.

Agriculturally considered, we may rank it with the useless plants.

In the third edition of RAY'S Synopsis, DILLENIUS, on the authority of Dr. RICHARDSON, adds another species, which he calls *Pedicularis major angustifolia ramosissima flore minore luteo, labello purpureo*. Found near York, and also in Northumberland. This, however, is considered by succeeding Botanists as a variety only, and is not found with us.



Rhinanthus crista Galli.

Linenbury del. & sc.



Schrophularia aquatica.

SCROPHULARIA AQUATICA. WATER-FIGWORT, or WATER-BETONY.

SCROPHULARIA Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.

Cal. quinquefidus. Cor. subglobosa, resupinata. Cap. bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

SCROPHULARIA *aquatica* foliis cordatis obtusis petiolatis decurrentibus, caule membranis angulato racemis terminalibus. Lin. Syst. Vegetab. p. 468. Sp. Pl. p. 864.

SCROPHULARIA caule alato quadrangulo paniculato, foliis ovato lanceolatis. Hall. Hist. 326.

SCROPHULARIA *aquatica*. Scopoli Fl. Carn. n. 776.

SCROPHULARIA *aquatica major*. Baub. Pin. 235.

BETONICA *aquatica*. Ger. emac. 715.

BETONICA *aquatica major*. Parkinson 613. Raii Syn. 283. Water-Betony, but more truly Water-Figwort. Hudson Fl. Angl. p. 275. Lightfoot Fl. Scot. p. 329.

RADIX	perennis, crassa, fibris numerosis, majusculis, longis, albis, donata.	ROOT	perennial, thick, furnished with numerous, large, long, white fibres.
CAULIS	tripedalis, ad orgyalem, erectus, ramosus, laevis, quadrangularis, purpureus, angulis, alatis; rami folioli, cauli similes.	STALK	from three to six feet in height, upright, branched, smooth, four-cornered, purple, the angles winged, branches leafy, like the stalk.
FOLIA	petiolata, opposita, distantia, decurrentia, subconnata, cordato-oblonga, subinde appendiculata, obtusa, venosa, crenata, nuda.	LEAVES	standing on foot-stalks, opposite, remote from each other, uniting in some degree at the base, current, oblong heart-shaped, having sometimes little appendages, obtuse, veiny, crenated, and smooth.
FLORES	paniculato-spicati, terminales.	FLOWERS	terminal, growing in a panicle-like spike.
RAMI	paniculæ oppositi, trichotomi, bracteâ lanceolata suffulti, pedunculis lateralibus, multifloris, bracteatis, subviscidis, intermedio solitario.	BRANCHES	of the panicle opposite, trichotomous, supported by a pointed floral-leaf, flower-stalks lateral, many-flowered, furnished with floral leaves, somewhat viscid, the middle one solitary.
CALYX:	PERIANTHUM monophyllum, quinquefidum, peristens, laciniis corollâ brevioribus, rotundatis, membranâ fuscâ lacerâ marginatis, fig. 1.	CALYX:	a PERIANTHUM of one leaf, divided into five segments and permanent, the segments shorter than the corolla, round and edged with a ragged brown membrane, fig. 1.
COROLLA	monopetala, inæqualis, atro-rubens. <i>Tubus</i> globosus, magnus, inflatus, fig. 2. <i>Limbus</i> quinquepartitus, laciniis duabus majoribus suberectis, rotundatis, fig. 3. cum intermedia squamula labrum parvum mentiente subiecta, fig. 4. duabus lateralibus patulis, fig. 5. <i>tertia minima</i> subinvoluta, fig. 6.	COROLLA	monopetalous, unequal, of a deep red colour. <i>Tube</i> globular, large, inflated, fig. 2. <i>Limb</i> deeply divided into five segments, the two uppermost of which are largest, somewhat upright, and rounded, fig. 3. with an intermediate little scale like a small lip placed underneath them, fig. 4. the two side ones spreading, fig. 5. the third very minute and rolled up, fig. 6.
STAMINA:	FILAMENTA quatuor, alba, linearia, subviscida, declinata, longitudine corollæ, quorum duo seriora. ANTHERÆ didymæ, flavæ, fig. 7, 8.	STAMINA:	four white, linear, slightly viscid FILAMENTS, inclining downward, the length of the corolla, two of which are later than the others. ANTHERÆ double and yellow, fig. 7, 8.
PISTILLUM:	GERMEN subconicum, glandulanectarifera cinctum, fig. 9, 10. STYLUS subulatus, apice subincurvatus, fig. 11. STIGMA obtusum, flavum, fig. 12.	PISTILLUM:	GERMEN somewhat conical, supported by a nectarous gland, fig. 9, 10. STYLE tapering, bending downwards a little at the top, fig. 11. STIGMA blunt and yellow, fig. 12.
PERICARPIUM:	CAPSULA subrotunda, acuminata, bilocularis, bivalvis, dissepimento e marginibus valvularum inflexis constructo, apice dehiscens, fig. 13.	SEED-VESSEL	a roundish pointed CAPSULE, of two cavities and two valves, partition formed by the edges of the valves turning in, opening at top.
SEMINA	plurima parva, fusca.	SEEDS	numerous, small, and brown.
RECEPTACULUM	unum, subrotundum in utrumque loculum entum se insinuans.	RECEPTACLE	single, roundish, insinuating itself into each cavity or cell.

The name of *Water-Betony* (by which this plant is, perhaps, more generally better known than by its other name of *Water-Figwort*) has been assigned it from the great similitude which its leaves bear to those of the *Wood-Betony*; but as it differs from it totally in its fructification, and consequently in its generic character, the latter name is certainly to be preferred.

In its usual state of growth it has little to recommend it as an ornamental plant; but when variegated, few exceed it in beauty. In this state it is not uncommon in the nurseries about *London*.

It grows naturally by the sides of rivers, ponds, and wet ditches; and flowers from *June* to *September*.

Medicinally the leaves of this species are recommended for the same purposes of those of the *Scrophularia nodosa*, to which they have by some been preferred: in taste and smell they are similar, but weaker. Mr. MARCHANT reports, in the Memoirs of the French Academy, that this plant is the same with the *Iquetaia* of the Brazilians, celebrated as a specific corrector of the ill flavour of Senna. On his authority the *Edinburgh* College, in their common infusion of that drug, directed two-thirds its weight of the Water-Figwort leaves to be joined; but as they have now discarded this ingredient, we may presume that it was not found to be of much use, *Lewis's Mat. Med. Ed. Aikin*, p. 598.

The disagreeable smell which attends this plant when bruised makes it rejected by cattle in general; nevertheless, both its leaves and flowers are much resorted to by different kinds of insects. The *Tenthredo Scrophulariae Lin.* feeds on its foliage, both in its caterpillar and perfect state. The beautiful caterpillar of the *Phalena Verbasci* feeds on this plant as well as on the Mullein. Both bees and wasps collect great quantities of honey from its flowers, and as these continue to be produced for a great length of time, it is one of those plants which perhaps may be made to grow near bee-hives with advantage.



Thlaspi campestre.

THLASPI CAMPESTRE. MITHRIDATE MUSTARD.

THLASPI *Linnæi Gen. Pl. TETRADYNAMIA SILICULOSA.*

Silicula emarginata, obcordata, polysperma: valvulis navicularibus, marginato-carinatis.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

THLASPI *campestre* siliculis subrotundis, foliis sagittatis dentatis, incanis. *Linn. Sp. Pl. p. 902. Syst. Vegetab. p. 491. Fl. Suec. n. 575.*

NASTURTIUM foliis imis petiolatis ovatis, caulinis sagittatis dentatis. *Haller Hist. n. 509.*

THLASPI *campestre*. *Scopoli Flor. Carn. n. 807.*

THLASPI *arvense*, Veccariæ folio majus. *Bauh. Pin. 106.*

THLASPI *mithridaticum* sive *vulgatissimum* Vaccariæ folio. *Parkins. p. 835.*

THLASPI *vulgatus*. *J. Bauh. II. p. 921.*

THLASPI *vulgatissimum*. *Ger. em. p. 262. Raii Syn. 305. Mithridate Mustard, Bastard Cresses. Hudson Fl. Angl. p. 281. Lightfoot Fl. Scot. p. 341.*

RADIX annua, simplex, fibrosa.

CAULIS pedalis ad sesquipedalem, erectus, teres, sub-angulosus, villosus, superne tantum ramosus.

FOLIA radicalia longe petiolata, oblongo-ovata, obtusa, saepius subintegra, interdum vero basi pinnatifida, cito marcescentia; caulinis sagittata, sparsa, conferta, suberecta, villosa, dentata, amplexicaulia.

FLORES minimi, albi.

RACEMI longi, erecti.

PEDUNCULI teretes, villosi, patentes, siliculis paulo longiores.

CALYX: PERIANTHUM tetrphyllum, foliolis ovatis, obtusis, concavis, ad lentem subpilosis, marginibus et apicibus albidis, alternis paulo brevioribus et angustioribus, fig. 1.

COROLLA: PETALA quatuor, alba, calyce paulo longiora, limbo subrotundo, ungue gracili, fig. 2.

STAMINA: FILAMENTA sex, quorum duo paulo breviora. ANTERÆ flavæ, fig. 3.

PISTILLUM: GERMEN ovale, compressum, emarginatum. STYLUS brevissimus. STIGMA capitatum, fig. 4.

PERICARPIUM: SILICULA ovata, obtusa, emarginata disperma, inferne gibba, superne concava, feminibus protuberantibus, fig. 5, 6.

ROOT annual, simple, and fibrous.

STALK a foot, or a foot and a half high, upright, round, very slightly angular, villous, branched at top only.

LEAVES next the root, standing on long foot-stalks, of an oblong ovate shape, for the most part nearly entire, but sometimes pinnatifid at the base, soon decaying, those of the stalk arrow-shaped, placed irregularly, numerous, nearly upright, villous, toothed, and embracing the stalk.

FLOWERS very small and white.

RACEMI long and upright.

FLOWER-STALKS round, villous, and spreading, a little longer than the seed-pods.

CALYX: a PERIANTHUM of four leaves; the leaflets ovate, obtuse, hollow, slightly hairy when magnified, the edges and tips whitish, the alternate ones shorter and narrower than the others, fig. 1.

COROLLA composed of four white PETALS, a little longer than the calyx, the limb roundish, and claw very slender, fig. 2.

STAMINA: six FILAMENTS, of which two are shorter than the rest, fig. 3.

PISTILLUM: GERMEN oval, flat, emarginate. STYLE very short. STIGMA forming a little head, fig. 4.

SEED-VESSEL: an ovate POD, obtuse, emarginate, containing two seeds, underneath gibbous, above concave, the seeds protuberating, fig. 5, 6.

The *Thlaspi arvense* *siliquis latis* of C. BAUHINE, and the present species, are the two whose seeds have been selected from this numerous genus for medicinal use. These appear to have been used indiscriminately; and sometimes the seeds of the common Cress (*Lepidium sativum*) have been substituted for both. Their virtues appear to be pretty similar: RUTTY prefers those of the *arvense*, as being the most active: they certainly have much more of the alliaceous taste than those of the *campestre*.

In the present practice they are rarely made use of any otherwise than as ingredients in the Venice Treacle and Mithridate, though some recommend them in different disorders, preferably to the common Mustard, with which they agree nearly in their pharmaceutic properties. *Lewis's Mat. Med. p. 647.*

The present species is not an unusual inhabitant of corn-fields; nevertheless it is rather a scarce plant with us. We have noticed it in the greatest plenty about Coomb-Wood, near Kingston. Dr. GOODENOUGH informs me, it is not uncommon in Gunnersbury-Lane, near Ealing.

It flowers in June, and ripens its seeds in July and August.

SINAPIS ALBA. WHITE MUSTARD.

SINAPIS Lin. Gen. Pl. TETRADYNAZIA SILIQUOSA.

Cal. patens. Cor. unguis recti. Glandula inter stamina breviora et pistillum, interque longiora et calycem.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SINAPIS alba, siliquis hispidis: rostro obliquo longissimo ensiformi. *Lin. Syst. Vegetab. p. 503. Sp. Pl. p. 933. Haller Hist. 466.*

SINAPIS alba. *Scopoli Fl. Carn. n. 843.*

SINAPI apii foliis. *Bauh. Pin. 99.*

SINAPI album siliqua hirsuta, semine albo vel ruffo. *I. B. II. 856.*

SINAPI sylvestre minus? *Parkins. 830. Raii Syn. p. 295. White Mustard. Hudson. Fl. Engl. ed. 2. p. 298. Lightfoot Fl. Scot. p. 361.*

RADIX annua, simplex, fibrosa, albida.

ROOT annual, simple, fibrous, and whitish.

CAULIS sesquipedalis ad bipedalem, erectus, ramosus, crassiusculus, *striatus*, tener, fragilis, hirsutus, pilis numerosis, rigidiusculis, deorsum veris.

STALK a foot and half to two feet high, upright, branched, somewhat clumsy, *finely grooved*, tender, brittle, and hirsute, the hairs numerous, stiffish, and turned downward.

FOLIA petiolata, alterna, radicalia et pleraque caulinæ pallide virentia, venosa, utrinque hirsuta, pinnis trium circiter parium, inferioribus minimis, extima subtriloba, omnibus varie dentatis.

LEAVES standing on footstalks, alternate, those next the root and most of those on the stalk pinnated, of a pale green colour, veiny, slightly hirsute on both sides, composed of three or four pair of pinnæ, the lowermost of which are very small, the terminal one often three-lobed, and all of them variously indented.

FLORES lutei, terminales.

FLOWERS yellow, and terminal.

PEDUNCULI tetragono-striati.

FLOWER-STALKS having four grooves or corners.

CALYX: PERIANTHIUM tetraphyllum, foliolis *patentibus*, concavis, deciduis, laevibus, sublinearibus, apice obtusis, fig. 1, 2.

CALYX: a PERIANTHIUM of four leaves, which are spreading, concave, deciduous, smooth, somewhat linear, and blunt at top, fig. 1, 2.

COROLLA: PETALA quatuor, subrotunda, plana, patentia, integra, *unguis* erectis, linearibus, longitudine vix calycis, fig. 3.

COROLLA: four roundish PETALS, flat, spreading, entire, claws upright, linear, scarcely the length of the calyx, fig. 3.

STAMINA; FILAMENTA sex, quorum duo breviora, virescentes, subulatæ. ANTERÆ luteæ, erectæ, subsagittatæ, fig. 4.

STAMINA: six FILAMENTS, two of which are shorter than the rest, of a greenish colour, and tapering. ANTERÆ yellow, upright, somewhat arrow-shaped, fig. 4.

GLANDULÆ ut in plerisque hujus generis, fig. 5.

GLANDS as in most of this genus, fig. 5.

PISTILLUM: GERMIN obovatum, subangulosum, ad lentem hispidum. STYLUS subulatus, an- ceps, germine duplo fere longior, staminibus paulo brevior. STIGMA capitatum, fig. 6.

PISTILLUM: GERMIN inversely ovate, slightly angular, hispid when magnified. STYLE tapering, two-edged, almost twice the length of the germin, and a little shorter than the stamina. STIGMA forming a little head, fig. 6.

PERICARPIUM: SILIQUA hirsuta, subarticulata, subtetrasperma, rostro longissimo ensiforme terminata, fig. 7, 8.

SEED-VESSEL: a hairy POD, somewhat jointed, containing about four seeds, terminated by a very long sword-shaped beak, fig. 7, 8.

SEMINA majuscula, fusca, fig. 9.

SEEDS rather large and brown, fig. 9.

In the corn-fields in Buckinghamshire, especially about High-Wycomb, the *Sinapis alba* is as common, and as troublesome a weed as the *arvensis*: with us it is found more sparingly. It is frequently met with on banks, and among the corn in Battersea-Fields, and well known to constitute a part of young salading.

RAY has been particularly happy in pointing out the striking characters of the several species of *Sinapis*, which LINNÆUS has adopted. The seed-vessels, either in their form, size, or manner of growth, will always with certainty distinguish them; but as these plants may occur when they are not sufficiently advanced to exhibit those characters, it is necessary to call in others to our assistance: we may then, in addition to LINNÆUS's specific characters, observe, that the *Sinapis alba* is most obviously distinguished from the *nigra*, by having its stalk *finely grooved* and *strongly haired*, and from the *arvensis*, for which it is perhaps much more liable to be mistaken, by having its leaves more divided or jagged, as our figure expresses.

It flowers in June, and ripens its seeds in July.



Sinapis alba.



SINAPIS ARVENSIS. CHARLOCK.

SINAPIS Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.

Cal. patens. Cor. unguis recti. Glandula inter stamina breviora et pistillum interque longiora et calycem.

Raii Syn. Gen. 15. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SINAPIS *arvensis* siliquis multangulis toroso-turgidis lævibus rostro ancipi longioribus. Lin. Syft. Vegetab. p. 503. Sp. Plant. p. 933. Fl. Suec. 610. Haller. Hist. n. 467.

SINAPIS *arvensis*. Scopoli Fl. Carn. n. 842.

RAPISTRUM flore luteo. Bauh. Pin. 95.

RAPISTRUM arvorum. Ger. emac. 233. Parkin. 862. Raii Syn. 295. Charlock or Wild Mustard. Hudson Fl. Angl. p. 298. Lightfoot Fl. Scot. p. 360.

RADIX annua, simplex, fibrosa, rigida, albida.

CAULIS pedalis, sesquipedalis, et ultra, ramosus, teres, solidus, striato-sulcatus, hispidus, purpurascens ramis diffusis.

FOLIA alterna, petiolata, patentia, scabriuscula, venosa, dentato-serrata, ovato-lanceolata, saepe integra, saepius vero basi sinuata, raro pinnata.

FLORES lutei, terminales, pedunculati.

PEDUNCULI longitudine calycis; hispiduli.

CALYX: PERIANTHUM tetraphyllum, foliolis linearibus, canaliculatis, patentibus, flavis, obtusis, pilosis, fig. 1.

COROLLA: PETALA quatuor, lutea, obcordata, unguiculata, patentia, unguibus longitudine fere calycis, fig. 1.

NECTARIA: Glandulae quatuor saturate virides.

STAMINA: FILAMENTA sex, quorum duo breviora, lutea, subulata. ANTHERÆ concolores, incumbentes, primo sagittatae, apicibus demum revolutis, fig. 3.

PISTILLUM: GERMIN cylindraceum, longitudine fere styli, et paulo crassior, nunc lave, nunc hirsutulum. STYLUS longitudine staminum. STIGMA capitatum, bilabiatum, fig. 4.

PERICARPIUM: SILIQUA teres, vix angulosa, patens, laveis aut hirsuta, polysperma, rostro brevi subtetragono terminata, fig. 5, 6.

SEMINA plurima, minuta, nigricantia.

ROOT annual, simple, fibrous, rigid, and whitish. STALK from one to a foot and a half high, upright, branched, round, solid, striated or grooved, hispid, and purplish, the branches spreading wide.

LEAVES alternate, standing on foot-stalks, spreading, roughish, veiny, indented or serrated, ovato-lanceolate, often entire, but most commonly jagged at the base, rarely pinnated.

FLOWERS of a yellow colour, growing in heads, and standing on flower-stalks.

FLOWER-STALKS the length of the calyx, slightly hispid.

CALYX: a PERIANTHUM of four leaves, the leaves linear, hollowed above, spreading, yellow, blunt, and hairy, fig. 1.

COROLLA: four PETALS of a yellow colour, inversely heart-shaped, spreading, claws almost the length of the calyx, fig. 2.

NECTARIES: four Glands of a deep green colour.

STAMINA: six FILAMENTS, two of which are shorter than the rest, yellow and tapering. ANTHERÆ of the same colour, incumbent, first arrow-shaped, tips finally rolling back, fig. 3.

PISTILLUM: GERMIN cylindrical, almost the length of the style, and a little thicker, sometimes smooth, sometimes a little hairy. STYLE the length of the stamina. STIGMA forming a little head, divided into two lips, fig. 4.

SEED-VESSEL a round POD, scarce perceptibly angular, spreading, smooth or hirsute, containing many seeds, terminated by a short somewhat four-cornered beak, fig. 5, 6.

SEEDS numerous, minute, and blackish.

There are three plants peculiar to corn fields, which, in various parts of the kingdom, are more or less common, and all of which are apt indiscriminately to be called CHARLOCK: these are the *Sinapis arvensis*, *Sinapis alba*, and *Raphanus Raphanistrum*; the first and the last of which are by far the most general. The name of *Charlock* ought, however, to be confined to the *Sinapis arvensis*, the most noxious weed of the three, and as such most carefully to be extirpated from among the corn.

The leaves of this plant, on their first appearing above ground, and for some time afterwards, resemble those of the turnip so much, that we have known an intelligent farmer deceived by them, and mistaken in his crop. The whole plant, when young, is often eaten by the labouring part of the community; and, like turnip-tops, is no bad substitute to other culinary plants in times of scarcity.

June is the month in which the Charlock flowers most plentifully; but it may frequently be found in blossom earlier, as well as much later. It is not confined to corn fields, but is almost equally common among rubbish.

It varies much in height, colour of its stalk, number of its branches, and degree of hairiness. Among corn it grows taller, and is less branched. The stalk, in some situations, is wholly green; but is more frequently purple at the joints, and very often wholly so. The seed-vessels also vary much in colour and hairiness. We have not observed the flowers subject to any variation of colour.

For the means of distinguishing it from the *Raphanus Raphanistrum*, which at first sight it considerably resembles, vid. *Raphanus Raphanistrum*, already figured.



Sisymbrium Irio.

SISYMBRIUM IRIO. LONDON ROCKET.

SISYMBRIUM Linn. Gen. Pl. TETRADYNAMIA SILIQUOSA.

Siliqua dehiscens, valvulis rectiusculis. *Calyx* patens. *Corolla* patens.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *Irio* foliis runcinatis dentatis nudis, caule lœvi, siliquis erectis. Linn. Syst. Vegetab. p. 499. Sp. Pl. 921. Fl. Suec. n. 596.

ERYSIMUM latifolium majus glabrum. Bauh. Pin. 101.

IRIO lœvis apulus erucæ folio. Col. Ecphr. 1. 264.

ERYSIMUM latifolium Neapolitanum. Park. 834. Raii Syn. p. 298. Smoother broad-leaved Hedge-Mustard. Hudson Fl. Angl. ed. 2. p. 297. Jacquin. Fl. Austr. tab. 322.

Tota planta glaberrima est, nec ullum pilum aut villum habet, acre sinapis sapore gaudens.

RADIX annua, albida, calami anserini crassitie, simplex, quandoque ramosa.

CAULIS pedalis, ad bipedalem, teres, hic illic purpurascens, nitidus, firmulus, non striatus, sæpius ab ipsa basi ramosus.

FOLIA radicalia, quæ brevi marcescunt, et caulina pleraque, sunt pinnatifida, sinuata, inæquilater dentata aut ferrata, petiolata, patentia, flaccida, lobis ut plurimum acutis, extremo majore et longiore, summa hastata, et quædam integerrima, ac simplicia,

FLORES pusilli, flavi, in racemos producuntur longissimos, modo rectos, modo flaccidos.

CALYX patens, flavescens, fig. 1.

PETALA obtusa, et oblonga, patentia, fig. 2.

STAMINA et STYLUS etiam flavescunt, fig. 3, 4.

SILIQUÆ quæ graciles, subteretes, ad semina torulosæ, biunciales, brevibus infistunt pedunculis et quaquavorum laxe patent, fig. 5.

SEMINA minuta, pallide flavent, fig. 6.

The whole plant is perfectly smooth, without any hair or down, having the biting taste of mustard.

ROOT annual, whitish, the thickness of a goose-quill, simple, sometimes branched.

STALK from one to two feet high, round, here and there purplish, shining, somewhat rigid, not striated or grooved, often branched quite from the bottom.

LEAVES next the root, which soon wither, and most of those on the stalk are pinnatifid, sinuated, unequally toothed or ferrated, standing on foot-stalks, spreading and flaccid, the lobes for the most part pointed, the end one larger and longer, the uppermost leaves hastate, some of them entire and simple.

FLOWERS small and yellow, growing on long racemi, which are sometimes straight, sometimes flaccid.

CALYX spreading, and yellowish, fig. 1.

PETALS obtuse, oblong, and spreading, fig. 2.

STAMINA and the STYLE are also of a yellowish colour, fig. 3, 4.

PODS slender, nearly round, about two inches long, standing on short foot-stalks, and spreading loosely every way, seeds protuberant, fig. 5.

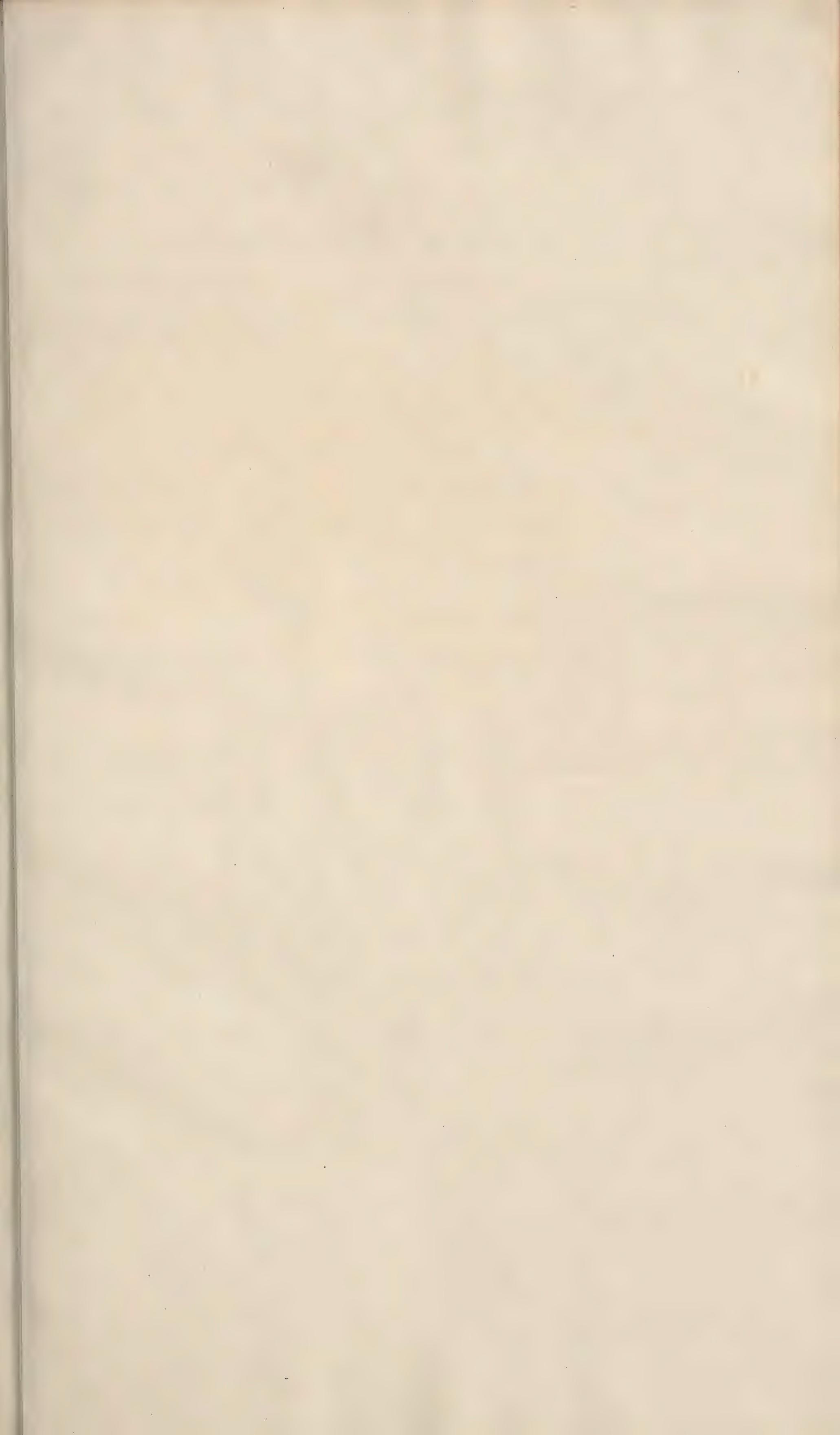
SEEDS minute, of a pale yellow colour, fig. 6.

The *Sisymbrium Irio*, though a scarce plant in many parts of Great-Britain, is frequent enough in the neighbourhood of London: we find it on dry banks, especially such as are made of road sand, walls, and among rubbish in uncultivated places. Its chief time of flowering is from July to September. Like many other annuals it is inconstant as to its particular place of growth. In favourable seasons and situations it is capable of multiplying itself exceedingly from the great number of seed-vessels which it produces. The seeds are very small, and protuberating a little through the valves of the seed-vessel give them the appearance of finely jointed pods; a character which, when present, will readily distinguish this plant. Mr. RAY observed it at Faulkbourne in Essex, and on the walls of Berwick on the Tweed. That great naturalist remarks, that after the fire of London in the years 1667, 1668, it came up abundantly among the rubbish in the ruins. MORISON, who lived at that period, was particularly struck with so singular an appearance, and in his *Preludia Botanica* has a long dialogue on this very subject; in which, whatever laurels he may gain as a Botanist, few will think him entitled to any as a Philosopher.

As the book, containing this curious dialogue, is in few hands, we flatter ourselves a copy of it will not be unacceptable to many of our readers.

" *Botan.* Secundo die septembbris, anno Domini, 1666, incepit incendium illud luctuosum, et ad triduum, aut quatriduum duravit. Nec ope humanâ (divinitus evenit, quum non est malum in civitate, quod non fecit Dominus) extingui poterat: nam Æolus apperto ventorum carcere (ut ita loquar) regnabat: per triduum aut quatriduum illud. Post octomestre spatium, per rudera ducentorum jugerum, solo æquatatorum, mihi perambulanti versus excambium vetus nunc. Ante illud tempus Collegium Greshamianum dictum tendenti, in vestigiis, ædificiorum et tectorum, mihi tanta fese objecit copia, Erysimi illius, quod irio lœvis Apulus alter Fabio Columnæ dicitur: Et eodem revertens, mensibus duobus post hoc; adeò densè pullulavit, ut falce quasi Triticum, aut secale demeti potuerit. *Soc.* Quid inde sequetur, unde provenisse tantam copiam istius Irionis? putas tu; an à semine seu satione? *Botan.* Quid quæso, te movet ad talem proponendam questionem, cum ædificia omnia circa ædem Divi Pauli, et alibi passim in medullio celeberrimi Emporii Londini, à mille aut saltem centenis annis: Fuere constructa et tectis conservata? *Soc.* Ergò tanta copia illius feminis, latebat in cellis et cavearum fundis, et soli et pluviæ exposita, fructicavit. *Botan.* Unum hoc addam: ego non sum Plinius, ut ex aliorum relatione mundo imponam; nec Matthiolus ut appingam ea quæ nunquam extitere: sed

“ sed ut vis appertis verbis nec Calamistratis; meum tibi dicam animum. *Soc.* Dicas quæso? *Botan.* Nullum
“ est semen plantæ, quod producit (conservatum quam diligentissimè) post decennium; perraro post quinquen-
“ nium multò minus post centenos aliquot, et mille annos. *Soc.* Ergo aliquis semina istius plantæ, per rudera
“ sparsit. *Botan.* Non credo imò, certò scio tantam istius Irionis feminis copiam non fuisse in tota insula
“ Britanniâ, imo nec in Gallia: dubito an in Germania et Italia ipsa; (cujus Neapolis est regnum, ubi frequentèr
“ crescebat tempore Fab. Columnæ) unquam floruit tanta istius plantæ copia, ergò etiam si seminatores fuissent
“ (ex tuâ opinione, post hæc tibi à me audita) non poterat tanta copia istius individualis speciei, feminis; à
“ tot Regnis suppeditari. *Soc.* De hoc nou multùm nunc dubito: sed quid concludis, sis rationi consentaneus.
“ Unde provenit tanta copia istius Irionis, forte sponte. Sub idem tempus, ibidem vidisti et observasti multas
“ alias plantas pappescentes, imo gramineas aliasque diversarum classium. *Botan.* Vidi et attentè observavi.
“ *Soc.* Undè hæc aliæ venerè? *Botan.* A semine volatili pappescenti quod potest (ut supra clarè satis docui) ad
“ multa Millaria, vento transferri, et in altum attolli et ubicunque ceciderit, germinat et fructificat. *Soc.* De
“ pappescentibus non dubito quod dicis, insuper Gramina, dense satis proveniunt: in qualibet terra si
“ negligatur: quare non potest tuum Erysimum, seu Irio lævis Apulus alter in ruderibus Londinenibus, sponte
“ etiam provenire. *Botan.* Non est par ratio inter Gramina et Erysimum hoc: Quia Graminum semina spar-
“ guntur passim; est omnium vegetantium plantarum, in omnibus regionibus, frequentissima et facilius sepe
“ propagat. *Soc.* Est planta tamen perfecta ex supra dictis à te: ergò à semine, multiplicatur. *Botan.* Hoc
“ ego semper credidi, et in hanc horam credo. Unum a te sciscitari velim, putasne hanc plantam, Irionem
“ lævem Apulum Col. a quo vis hortulano, aut incola hujus civitatis fatam, in ruderibus fuisse. *Soc.* Neminem
“ hujus insulæ primò tam curiosum, secundò nec tantæ ejus plantæ feminis, copia instructum fuisse, pro certo
“ ratum et statutum habeo. Quis tam stolidus aut malè feriatus homo, si semina ad manum haberet (quod
“ impossibile suprà demonstratum est) ruderibus ducentorum jugerum terræ, solo æquatorum, committeret.
“ Ergò cum nec à satione, nec à semine, ad aliquot centenos annos in ruderibus latente, produci poterat; hujus
“ plantæ tanta copia. Unde concludere vis, tantam ipsius multitudinem provenisse. *Botan.* Certè ut supra dixi
“ ex sale partim volatili, partim fixo, falpetro, sulphure, et ex terra sive calcosa aut ruderosa et aqua, mixtaque
“ materia, quoque modo appelles, per me non stabit. Nescio quid mihi persuasum habere debeo, adhuc.
“ Probabile certè est, hanc plantam tam copiosè provenisse sponte; ut supra dictum fuit. Sed hæc opinio
“ apperit januam ad philosophastos contemplativos, qui indifferenter, credunt cujuslibet generis plantas, arbores,
“ frutices, suffruticesve, ex terra tanquam matrice, sponte sine semine provenire. Sed hæc opinio (ut mihi
“ videtur) repugnat sacræ scripturæ, et rationi. Hæc per dialogum inter nos dixisse, impræsentiarum, fat esse
“ puto. Quod restat de hac materia; Sociis virtuosis, Parisiensibus, et Londinenibus, viris nobilissimis, clarissimis
“ et doctissimis (ex quorum numero te esse scio) discutiendum relinquo. Vale, mi doctissime vir.”



SISYMBRIUM TERRESTRE. ANNUAL WATER-RADISH.

SISYMBRIUM Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.

Siliqua dehiscens, valvulis rectiusculis. *Cal.* patens. *Corolla* patens.

Raii Syn. Gen. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *terrestre* radice annua, foliis pinnatifidis dentato-ferratis, siliquis fœcundis.

RADIX annua, fibrofa, albida.

CAULIS pedalis, sesquipedalis, et ultra, plerumque erectus, ramosus, fulcatus, laevis, viridis, seu purpurascens.

FOLIA omnia pinnatifida, Erysimi officinalis quodammodo similia, laetitia, pinnis trium, quatuor, five sex parium, cum impari, omnibus inæqualiter dentato ferratis, extima presertim in inferioribus foliis rotundata; caulinis semiamplexicaulia.

FLORES minimi, lutei, semper fœcundi.

CALYX: PERIANTHUM tetraphyllum, foliolis ovatis, obtusis, concavis, suberectis, flavescentibus, fig. 1. auct.

COROLLA: PETALA quatuor, lutea, saepius emarginata, vix longitudine calycis, fig. 2.

STAMINA: FILAMENTA sex, subæqualia, longitudine pistilli, flavescentia. ANTHERÆ luteæ, in-cumbentes, fig. 3.

PISTILLUM: GERMEN oblongum. STYLUS brevissimus. STIGMA capitatum, villosum, fig. 4.

PERICARPIUM: SILIQUA teres, longitudine pedunculi, sursum subarcta, feminibus plurimis haud æqualiter protuberantibus turgida, fig. 5, 6.

SEMINA minima, fusca, fig. 7.

ROOT annual, fibrous, and whitish.

STALK a foot, a foot and a half, or more, in height, generally upright, branched, grooved, smooth, of a green or purplish colour.

LEAVES, all of them pinnatifid, somewhat like those of Hedge-mustard, smooth, the pinnæ consist of three, four, or six pair, with an odd one, all of them unequally indented, the outermost especially in the bottom leaves roundish, those of the stalk partly amplexicaule.

FLOWERS very small, yellow, and always producing seed.

CALYX: a PERIANTHUM of four leaves, which are ovate, obtuse, hollow, nearly upright, and yellowish, fig. 1. magn.

COROLLA: four PETALS, of a yellow colour, generally nicked at the end, scarcely the length of the calyx, fig. 2.

STAMINA: six FILAMENTS, nearly equal, the length of the pistillum, of a yellowish colour. ANTHERÆ yellow and incumbent, fig. 3.

PISTILLUM: GERMEN oblong. STYLE very short. STIGMA forming a little head and villous, fig. 4.

SEED-VESSEL: a round POD, the length of the flower-stalk, somewhat curved upward, turgid with numerous seeds which protuberate unequally, fig. 5, 6.

SEEDS very small and brown, fig. 7.

We have taken the name of *terrestre*, which LINNÆUS applies to the third variety of his *Sisymbrium amphibium*, not so much from the certainty of its being the plant he intends, as from the propriety of its application to that species, it being generally found in drier situations than the true *amphibium*.

Repeated observation and culture have thoroughly satisfied us that the present plant is a species perfectly distinct from the *amphibium*; and we ground our authority for considering it as such on the following circumstances.

1st, It is an annual, whereas the *amphibium* is not only a perennial, but has a creeping root.

2dly, It is a much smaller plant than the *amphibium*, seldom acquiring half its height.

3dly, It is seldom or never found in the water, unless accidentally overflowed.

4thly, Its foliage is very different, the radical leaves much resembling those of the *Erysimum officinale*.

And, lastly, its seed-vessels are always turgid, and full of seeds, while those of the *amphibium* are usually abortive.

As we can find no satisfactory account of this plant either in RAY, HUDSON, LINNÆUS, HALLER, or the numerous authors we have consulted, we have omitted all synonyms, and contented ourselves with giving it a new specific character, chiefly intended to contrast it with the *amphibium*.

In the course of our botanical researches we have had frequent occasion to remark, that our most common plants are the least known; we seek with avidity such as are rare and with difficulty acquired, and neglect those that we daily tread under foot. The present plant affords an instance of this inattention, as it is a very common one in the environs of London, and found in the same situations as the *Rumex maritimus*, on the edges of wet ditches, and on ground apt to be occasionally overflowed. We have observed it in Tothill-Fields, on the edge of a ditch by the road-side leading from the Magdalen-Hospital to Lambeth-Marsh, and in our garden it comes up spontaneously as a common weed.

When this plant grows by itself, in a situation tolerably dry, it grows quite erect, and quickly produces a considerable quantity of seeds. Should it happen to be overflowed, which is frequently the case, it is then more procumbent, and will sometimes take root at the joints, in which state it appears to be the *Sisymbrium palustre repens parvo flore* of VAILLANT, at least it accords in part.

This species of *Sisymbrium* flowers in June, July, August, and September.

It has a similar taste to most of the plants of the cress kind, but is not very pungent.

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Sisymbrium terrestris

ERYSIMUM OFFICINALE. HEDGE-MUSTARD.

ERYSIMUM Linn. Gen. Pl. TETRADYNAMIA SILIQUOSA.

Siliqua columnaris, exacte tetraëdra, Cal. clausus.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

ERYSIMUM *officinale* siliquis spicæ adpressis. Linn. Syst. Vegetab. p. 499. Sp. Pl. p. 922. Fl. Suec. n. 598.

ERYSIMUM foliis pinnatis, pinnis rectangulis, acutis, extrema triangulari maxima, siliquis adpressis. Haller Hist. 878.

SISYMBRIUM *officinale*. Scopoli Fl. Carn. n. 824.

ERYSIMUM *vulgare*. Bauh. Pin. 100.

ERYSIMUM *Dioscoridis Lobelio*. Ger. emac. 254.

ERYSIMUM *vulgare*. Parkins. 833.

ERUCA *hirsuta* siliqua caule appressa Erysimum dicta. Raii Syn. 298. Common Hedge-Mustard. Hudson Fl. Angl. ed. 2. p. 286. Lightfoot Fl. Scot. p. 354.

RADIX annua, descendens, flexuosa, fibrillosa.

ROOT annual, descending, crooked, and fibrous.

CAULIS pedalis ad bipedalem, erectus, teres, striatus, pubescens, scaber, ramosus, saepius purpurascens.

STALK from one to two feet high, upright, round, finely grooved, beset with numerous short rough hairs, branched, and for the most part purplish.

FOLIA alterna, petiolata, utrinque parcus pubescentia, subitus scabra, praecipue in costa et nervis, pinnatifida, laciniis oppositis, oblongis, ferrato-dentatis, terminali majore, cum laciniis proximis confluente.

LEAVES alternate, standing on foot-stalks, slightly downy on each side, rough, particularly on the midrib and nerves, pinnatifid, the segments opposite, oblong, ferrated or toothed, the end one largest, and connected with the next to it.

RACEMI florum terminales, subrotundi; fructuum filiformes, elongati, nudi, pubescentes.

RACEMI of the flowers terminal, roundish; of the fruit filiform, lengthened out, naked, and downy.

CALYX: PERIANTHIUM tetraphyllum, pallidum, foliolis linearis ovalibus, obtusiusculis, concavis, pubescentibus, fig. 1.

CALYX: a PERIANTHIUM of four leaves, of a pale colour, linear, oval, bluntnish, concave, and downy, fig. 1.

COROLLA cruciformis, tetrapetala, sorde lutescens, petalis cuneiformibus, obtusis, venulosis, unguiculatis, calyce longioribus, fig. 4.

COROLLA cross-shaped, composed of four petals, of a dull yellow colour, wedge-shaped, obtuse, veiny, clawed, longer than the calyx, fig. 4.

STAMINA: FILAMENTA sex, subulata, pallida, collata paulo breviora; quorum duo adhuc breviora. ANTERÆ cordatæ, acutæ, subrecurvæ, fig. 2.

STAMINA: six FILAMENTS, tapering, of a pale colour, a little shorter than the corolla; two of which are shorter than the rest. ANTERÆ heart shaped, pointed, bent somewhat upward, fig. 2.

NECTARIA: Glandulæ duæ, utrinque ad stamina breviora.

NECTARIES: two Glands, one on each side, placed at the base of the shorter stamina.

PISTILLUM: GERMIN cylindricum, striatum. STYLUS brevis, pubescens. STIGMA orbiculatum, planiusculum, emarginatum, altitudine fere staminum, fig. 3.

PISTILLUM: GERMIN cylindrical, striated. STYLE short, downy. STIGMATA round, flattish, emarginate, almost the height of the stamina, fig. 3.

SILIQUÆ cylindricæ, striatæ, virides aut purpureæ, pubescentes, cauli adpresso, fig. 5, 6.

PODS cylindrical, finely grooved, green or purple, downy and pressed to the stalk, fig. 5, 6.

SEMINA sorde lutescentia, utrinque oblique truncata, fig. 7.

SEEDS of a dingy yellow colour, obliquely truncated at each end, fig. 7.

The *Erysimum officinale* affords a remarkable instance of that diversity of appearance which the same plant may assume at different periods of its growth. View it just as it comes into blossom, and afterwards, when its flowering branches shoot out horizontally to a great length, and you will scarcely believe that it is one and the same plant.

It grows very commonly on dry banks, under walls, pales, and in waste places; and flowers from June to September.

The leaves of Hedge-Mustard are said to be attenuant, expectorant, and diuretic, and stand particularly recommended against chronic coughs and hoarseness, whether humoral or occasioned by immoderate exertion of the voice. LOBEL greatly commends for this purpose a compound syrup, which, as GEOFFROY observes, is not superior to a simple mixture of the expressed juice of the herb with honey; and indeed it is not very clear, whether the virtue of the honey is much improved by the *Erysimum*.

The herb has no smell: and its taste, at least when moderately dried, is little other than herbaceous, with somewhat of a slight saline impregnation.

The seeds of *Erysimum* are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker. Their acrimony, like that of mustard-seed is extracted totally by water, and partially by rectified spirit, and strongly impregnates water in distillation. Aikin's. Ed. of Lewis's Mat. Med. p. 290.



Erysimum officinale.

J. Sowerby del. et sculp.



Lathyrus Aphaca.

LATHYRUS APHACA. YELLOW VETCHLING.

LATHYRUS Linn. Gen. Pl. DIADELPHIA DECANDRIA.

Stylus planus, supra villosus, superne latior. Cal. laciniæ superiores 2 breviores.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *Aphaca* pedunculis unifloris, cirrhis aphyllis, stipulis sagittato-cordatis. Linn. Syst. Vegetab. p. 662. Sp. Pl. 1029.

LATHYRUS *aphylos* stipulis sagittatis latissimis. Haller Hist. n. 442.

LATHYRUS *Aphaca*. Scopoli Fl. Carn. n. 887.

VICIA lutea foliis convolvuli minoris. Baub. Pin. 345.

APHACA Parkins. 1067. Gér. emac. 1250. Raii Syn. ed. 3. p. 320. Hudson Fl. Angl. ed. 2. p. 315.

RADIX annua, fibrosa.

CAULIS pedalis, sesquipedalis, et ultra, debilis, opere cirrhorum scandens, tetragonus, laevis.

FOLIA nulla.

STIPULÆ binæ, magnæ, sagittato-cordatae, obtuse, utrinque prope basin denticulo notatae, glaucæ, subitus nervosæ.

CIRRUS simplex, patens.

FLORES lutei, parvi, solitarii, pedunculati, axillares.

PEDUNCULI foliis longiores, tetragoni, uniflori, bracteâ minimâ prope florem instructi.

CALYX: PERIANTHIUM monophyllum, quinque partitum, laciniis lanceolatis, subæqualibus, nervosis, longitudine fere corollæ, fig. 1.

COROLLA papilionacea, VEXILLUM luteum, reflexum, intus lineis cæruleis striatum, fig. 2. ALÆ luteæ, subrotundæ, longitudine carinæ, hamis duobus inæqualibus, pallidioribus, fig. 3. CARINA pallide sulphurea, postice fissa, fig. 4.

STAMINA: FILAMENTA decem, simplex, et novem fidum, affurgentia, albida; ANTERÆ subrotundæ, luteæ, fig. 5.

PISTILLUM: GERMIN oblongum, compressum, viride, glabrum; STYLUS sursum erexit, pallidior, superne latior, obtusus; STIGMA a medietate styli antice villosum, fig. 6.

PERICARPIUM: LEGUMEN unciale, latiusculum, compressum.

SEMINA septem octo, subrotunda, nitida.

ROOT annual and fibrous.

STALK a foot, a foot and a half, or more, in height, weak, climbing by means of its tendrils, four-cornered, and smooth.

LEAVES none.

STIPULÆ growing in pairs, large, betwixt arrow and heart-shaped, obtuse, on each side near the base furnished with a tooth, glaucous, and ribbed on the under-side.

TENDRIL simple and spreading.

FLOWERS yellow, small, solitary, growing on footstalks from the alæ of the leaves.

FLOWER-STALKS longer than the leaves, four-cornered, one-flowered, furnished near the flower with a minute bractæa or floral leaf.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, which are lanceolate, nearly equal, ribbed, and almost the length of the corolla, fig. 1.

COROLLA papilionaceous: STANDARD yellow, reflexed, striped on the inside with blue lines, fig. 2. WINGS yellow, nearly round, the length of the keel, claws two, unequal, paler, fig. 3. KEEL of a pale sulphur colour, cloven behind, fig. 4.

STAMINA: ten FILAMENTS, one single, nine connected, rising upwards, whitish; ANTERÆ roundish and yellow, fig. 5.

PISTILLUM: GERMIN oblong, flat, green, and smooth; STYLE rising upwards, upright, paler, dilated above, obtuse; STIGMA, which rises from the middle of the style, villous on its fore part, fig. 6.

SEED-VESSEL: a POD about an inch in length, broadish, and flattened.

SEEDS seven or eight, roundish, and shining.

We have here a very unusual phenomenon in the vegetable œconomy, a plant whose stipulæ supply the place of leaves, at least when the plant becomes of a certain age; for, by a kind of accidental examination, we lately discovered that this species of *Lathyrus*, soon after it comes up from seed, is usually furnished with one or more pair of leaves, similar to the other plants of this family, but which, as the plant advances, totally disappear; these are represented at fig. 7.

A somewhat similar appearance we noticed last summer at Mr. MALCOLM's, Kennington, in a rare species of *Mimosa*, called *verticillata*, all the leaves of the young plants were pinnated, and all those of the old plants whorled.

LINNÆUS, in his *Species Plant.* takes some notice of the *Aphaca*'s producing leaves; his words are, *Cirrus interdum aliquis gerit foliola conjugata, 2, lanceolata, reliquis Lathyris simillima, at hoc rariſſime.*

According to our observation, the leaves grew on footstalks in the usual way, without any, or a very short tendril, and they were observable on every seedling; hence we suspect them to be common to this plant when young, and rare, merely from being overlooked.

This species is an annual which grows spontaneously in our corn-fields, but is not common in the neighbourhood of London; we have observed it most frequently about Tottenham and Enfield.

It flowers in June and July.

No particular uses or noxious qualities are ascribed to it.



SPARTIUM SCOPARIUM. COMMON BROOM.

SPARTIUM *Linn. Gen. Pl. Diadelphia Decandria.*

Stigma longitudinale, supra villosum. Filamenta germini adhærentia. Cal. deorum productus.

Raii Syn. Arbores et Frutices.

SPARTIUM *Scoparium foliis ternatis solitariisque ramis inermibus angulatis. Linn. Syst. Vegetab. p. 644. Sp. Pl. p. 996. Fl. Suec. n. 633.*

SPARTIUM *foliis inferioribus ternatis hirsutis, superioribus simplicibus. Haller. Hist. n. 354.*

GENISTA *angulosa et scoparia. Baub. Pin. 395.*

GENISTA *cum rapo. Dodon. Pempt. p. 761. Ger. emac. 1311.*

GENISTA *vulgaris sive scoparia. Park. Theat. p. 228.*

GENISTA *angulosa trifolia. I. B. I. 388. Raii Syn. p. 474. Common Broom. Hudson Fl. Angl. ed. 2. p. 310. Lightfoot Fl. Scot. p. 382.*

Frutex tripedalis ad orgyalem et ultra, ramosissimus, ramis erectis, virgatis, viridibus, angulatis, flexilibus, junioribus pubescentibus.

FOLIA sèpius ternata, summis subinde solitaria, foliolis ovatis, acutis, pubescentibus, ciliatis, ciliis mollibus inflexis.

PETIOLI pubescentes, complanati.

FLORES lutei, maximi, laxe racemosi.

BRACTEÆ quatuor, obovatæ, inæquales, cruciatæ, obtusæ, ad basin peduncularum.

PEDUNCULI solitarii, sèpius bini, raro terni, teretes, glabri, stipulâ minimâ utrinque instructi.

CALYX: PERIANTHUM monophyllum, parvum, bilabiatum, sèpe purpureum, obsolete denticulatum, labiorum apicibus marcidis fuscis, fig. 1.

COROLLA papilionacea, pentapetala, *Vexillum* obcordatum, reflexum, maximum, fig. 2. Alæ longitudine carinæ, subovales, breviter petiolatæ, fig. 3. Carina ampla et profunda, obtuse rostrata, fig. 4. dipetala, aut in duas partes facile separabilis, margine carinali villis connexo.

STAMINA: FILAMENTA decem, inferne in unum corpus coalita (hinc decandria non diadelphia) assurgentæ, inferioribus longioribus; ANTHERÆ oblongæ, croceæ, fig. 5.

PISTILLUM: GERMEN oblongum, hirsutum; STYLUS subulatus, assurgens, demum spiraliter involutus ad apicem inferne canaliculatus; STIGMA terminale, minimum, capitatum, fig. 6. auct. fig. 7.

PERICARPIUM: LEGUMEN latum, compressum, nigricans, marginibus pilis mollibus ciliatis, fig. 8.

SEMINA plurima ad 20, minuta, subovata lutescentia, nitida, fig. 9.

A Shrub from three to six feet high or more, very much branched, the branches upright, twiggy, green, angular, flexible, the young ones downy.

LEAVES most commonly growing by threes, uppermost ones sometimes singly, leaflets ovate, acute, downy, edged with soft hairs bending inwards.

LEAF-STALKS downy, flattened.

FLOWERS yellow, very large, growing in loose racemi.

BRACTEÆ four, inversely ovate, unequal, cross-shaped, obtuse at the base of the flower-stalks.

FLOWER-STALKS single, oftener two, rarely three, round, smooth, furnished on each side with a very minute stipula.

CALYX: a PERIANTHUM of one leaf, small, two-lipped, often purple, faintly toothed, extremities of the lips withered and brown, fig. 1.

COROLLA papilionaceous, pentapetalous, Standard inversely heart-shaped, reflexed, very large, fig. 2. Wings the length of the keel, somewhat oval, on short footstalks, fig. 3. Keel large and deep, beak blunt, fig. 4. composed of two petals, or at least easily separated into two parts, the edges being connected together at the keel with soft hairs.

STAMINA: ten FILAMENTS, below united into one body (hence of the class decandria rather than diadelphia) rising upwards, the lowermost ones longest; ANTHERÆ oblong, saffron-coloured, fig. 5.

PISTILLUM: GERMEN oblong, hirsute; STYLE tapering, rising upward, finally bent spirally, so as to form somewhat more than a circle, near the tip hollowed below; STIGMA terminal, very small, and forming a little head, fig. 6. magnified, fig. 7.

SEED-VESSEL a broad, flat, blackish POD, edged with soft hairs, fig. 8.

SEEDS numerous to 20, small, somewhat ovate, dingy yellow, glossy, fig. 9.

The common English Broom is one of the most ornamental shrubs we have, especially that variety of it, in which the calyx is purple, and the blossoms strongly tinged with orange; but even in its common state, such is the profusion of blossoms with which its branches are loaded in the summer, such the charming verdure of its twigs in the winter season, that it may be said to vie with any of the foreign ones, and to be equally deserving a place in all ornamental grounds.

It grows naturally in dry, sandy, barren soils, bears transplanting badly, but is most readily raised from seed. It is not only in an ornamental point of view, that this plant deserves our notice, it claims our attention

as an useful plant in rural œconomy and medicine. Though not so commonly used for besoms as the common Heath and Birch, it is preferred for many purposes; in the Northern parts of Great-Britain it is made use of for thatching cottages, corn and hay-ricks, also as a substitute for reeds in making fences or screens; and we have been credibly informed, that in some parts of Scotland, where coals are scarce, whole fields are sown with its seeds to form fuel.

Authors mention the flower-buds, just before they become yellow, as proper for pickling, in the manner of capers*; the branches, as capable of tanning leather †, and of being manufactured into coarse cloth ‡; the old wood, as furnishing the cabinet-maker with the most beautiful materials for veneering; and the tender branches, to be frequently mixed with hops for brewing §.

* DODON, &c.

† HALLER.

‡ Ibid.

§ LIGHTFOOT, Fl. Scot.

The twigs, when bruised, smell disagreeably; this may, perhaps, be one reason for their being generally rejected by cattle: the plant, however, affords nourishment to a great variety of insects; in particular, to the larvae of several *Phalænæ* not described by LINNÆUS.

From the roots of this plant springs the Broom Rape, figured in a former number of this work.

" The leaves and stalks of broom have a nauseous bitter taste, which they give out by infusion, both to water and rectified spirit; and which, on gently inspissating the filtered liquors, remains concentrated in the extracts: the watery tincture is of a yellowish green or brownish, the spirituous of a dark green colour. They are accounted laxative, aperient, and diuretic; and in this intention have been often used by the common people in drop-syphus and other serous disorders. Dr. MEAD relates a case of an hydroptic person, who, after the paracentesis had been thrice performed, and sundry purgatives and diuretics had been tried without relief, was perfectly cured, by taking, every morning and evening, half a pint of a decoction of green broom tops, with a spoonful of whole mustard seed: by this medicine, the thirst was abated, the belly loosened, and the urinary discharge increased to the quantity of at least five or six pints a day.

" Infusions of the ashes of the plant in acidulous wines, have likewise been employed in the same intention, and often with good success. The virtue of this medicine does not depend, as some have supposed, on any of the peculiar qualities of the broom remaining in the ashes, but on the alkaline salt and earth, which are the same in the ashes of broom as in those of other vegetables, combined, wholly or in part, with the vinous acid. A solution even of the pure earthy part of vegetable ashes, made in vegetable acids, proves notably purgative and diuretic.

" Of the seeds and flowers, the medicinal qualities are not well known. It is said, that the seeds, in doses of a dram and a half in substance, and five or six drams in decoction or infusion, prove purgative or emetic. Some report that the flowers also operate in the same manner; but LOBEL assures us, from his own observation, that they have been taken in quantity without producing any such effect: and I have known infusions of the flowery tops drank freely in some asthmatic cases, without any other sensible operation than a salutary increase of urine and expectoration. The seeds, slightly roasted, are used in some places as coffee." LEWIS's *Mater. Med.* p. 318.

A variety of this plant, much more hoary than common, is accidentally met with; the most usual time of its flowering with us, is about the latter end of May or beginning of June.

THOMSON, whose observing eye rarely suffered any of the beauties of nature to escape him, has noticed the flowering of this shrub in the following passage, in which he describes the effect which the genial warmth of the season produces on the various animals:

" While thus the gentle tenants of the shade
" Indulge their purer loves, the rougher world
" Of brutes below rush furious into flame
" And fierce desire. Thro' all his lusty veins
" The bull, deep-scorch'd, the raging passion feels;
" Of pasture sick, and negligent of food,
" Scarce seen, he wades among the yellow broom.

Siliagine. — M.L.

TRIFOLIUM PROCUMBENS. PROCUMBENT TREFOIL.

TRIFOLIUM Linn. Gen. Pl. DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 24. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *procumbens* spicis ovalibus imbricatis: vexillis deflexis persistentibus, caulis procumbentibus. Linn. Syst. Veg. p. 574. Sp. Pl. 1088. Fl. Suec. n. 673.

TRIFOLIUM spicis strepentibus paucifloris, caulis erectis. Haller Hist. 364.

TRIFOLIUM luteum flore lupulino minus. I. B. II. 381.

TRIFOLIUM lupulinum alterum minus. Raii Syn. p. 330. a. 17. The lesser Hop-Trefoil. Hudson Fl. Angl. ed. 2. p. 328. Lightfoot Flor. Scot. p. 409.

RADIX annua, fibrosa.

CAULES plures, spithamæi, pedales et ultra, teretes, duriusculi, pilis adpressis pubescentes, præferunt ad extremitates, purpurei, procumbentes, ramosi.

FOLIA terna, petiolata, remota, inferiora obcordata, superiora obovata, plerumque emarginata, ad apicem argute ferrata, plerumque lævia, venis rectis, simplicibus, utrinque impressis.

PETIOLI breves, longitudine stipularum.

STIPULÆ binæ, ovatæ, acutæ, quinquenerves, ad margines pilosæ, basi amplexicaules.

PEDUNCULI unciales circiter, pubescentes.

SPICÆ subrotundæ, multifloræ (raro infra octo, aut ultra viginti) laxius imbricatæ.

FLORES parvi, lutei, pedicellis brevissimis, insidentes.

CALYX: PERIANTHIUM quinquedentatum, persistent, subpilosum, dentibus tribus inferioribus longioribus, subulatis, fig. 1.

COROLLA papilionacea, persistent, marcescens, demum rufa, venis saturatioribus striata, fig. 2.

PERICARPIUM: LEGUMEN ovatum, compressum, monospermum, deorsum reflexum, corollâ persistente inclusum, fig. 3.

ROOT annual and fibrous.

STALKS several, a span, or even a foot or more in length, round, hardish, downy, with hairs pressed close to the stalk, particularly at the extremities, purple, procumbent, and branched.

LEAVES growing three together, remotely, standing on footstalks, the lowermost obcordate, the uppermost obovate, for the most part emarginate, towards the top finely serrated, commonly smooth, the veins straight, unbranched, impressed on each side of the leaf.

LEAF-STALKS short, the length of the stipulæ.

STIPULÆ growing in pairs, ovate, pointed, five-ribbed, edged with hairs, and at the base embracing the stalk.

FLOWER-STALKS about an inch in length and downy.

SPIKES roundish, many-flowered, flowers seldom fewer than eight or more than twenty, loosely imbricated.

FLOWERS small and yellow, sitting on very short foot-stalks.

CALYX: a PERIANTHIUM with five teeth, permanent, and somewhat hairy, the three lowermost longer than the rest, and awl-shaped, fig. 1.

COROLLA papilionaceous, permanent, and withering, finally becoming of a reddish brown colour, and striped with veins of a deeper colour, fig. 2.

SEED-VESSEL an ovate, flat Pod, turning backward, enclosed in the corolla, which continues, and containing one seed, fig. 3.

The *Trifolium procumbens* is often found larger, but more frequently much smaller, than the specimen we have here figured. When it grows luxuriantly it bears a near resemblance to the *agrarium* already published: but in that species the spikes are not only much larger, but also much more closely imbricated; compared with the *procumbens*, the *agrarium* may be considered with us at least as a scarce plant; while that is found only in certain spots, the *procumbens* is met with every where, there being scarcely a dry hilly pasture, or grass plat, on which it may not be found. In its dwarf state it comes very near to the *filiforme* figured in *Ray's Synopsis*, tab. 14. fig. 4. Indeed it is very difficult to assign their respective limits; but both Mr. HUDDSON and Mr. LIGHTFOOT agree in making the *filiforme* a distinct species; and the latter assures us, that culture proves them to be specifically different.

All the Trefoils are considered as affording excellent pasturage and fodder for cattle. The present species is, perhaps, not inferior to any of them in these respects; but the quantity it affords is so trifling, that it can scarcely be thought worth cultivating, especially as it is only an annual.

It flowers during the greatest part of the Summer.

HALLER describes it as growing upright, which it never does with us, unless drawn up by surrounding herbage.



VICIA CRACCA. TUFTED VETCH.

VICIA Linn. Gen. Pl. DIADELPHIA DECANDRIA.

Stigma latere inferiore transverse barbatum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

VICIA Cracca pedunculis multifloris, floribus imbricatis, foliolis lanceolatis pubescentibus, stipulis integris. Linn. Syst. Vegetab. p. 553. Sp. Pl. p. 1035. Fl. Suec. n. 652.

VICIA Cracca pedunculis multifloris, floribus imbricatis, foliolis lanceolatis pubescentibus, stipulis integris. Linn. Syst. Vegetab. p. 553. Sp. Pl. p. 1035. Fl. Suec. n. 652.

VICIA foliis lanceolatis sericeis, racemis multifloris reflexis, stipulis integerrimis. Haller. Hist. n. 424.

VICIA Cracca. Scopoli Fl. Carn. n. 899.

VICIA multiflora. Bauh. Pin. 345.

VICIA multiflora seu spicata. Park. 1072.

CRACCA. Riv. Tetr. 49. Raii Syn. p. 322. Tufted Vetches. Hudson Fl. Angl. p. 317. Lightfoot Fl. Scot. p. 394.

RADIX perennis, repens.

CAULES bipedalis, tripedalis et ultra, pro ratione loci, scandens, angulo-falcatus, pubescens, fragilis, frangendo crepitans, ramosus.

STIPULÆ binæ, semisagittatæ, integræ aut dentatæ.

FOLIA pinnata, pinnarum 8 seu 12 parium, raro ultra, oblongo-lanceolata, mucronata, utrinque sericea pube albida, pinnis oppositis alternis, cirrho tripartito terminata.

FLORES racemosi.

RACEMI alterni, multiflori, primo suberecti, apice incurvi, postea reflexi, flosculis 10 ad 40, violaceis, confertis, brevissime pedicellatis.

CALYX: PERIANTHIUM monophyllum, tubulatum, coloratum, quinquedentatum, dentibus tribus inferioribus longioribus, pilosus, medio productiore, duobus superioribus minimis, fig. 2.

COROLLA: VEXILLUM emarginatum, reflexum, violaceum, venis saturationibus obsolete striatum. ALÆ conniventes. CARINA albida, ad apicem maculâ saturate violacea, utrinque notata, fig. 1.

STAMINA: FILAMENTA 10, simplex et novem fidum, alba. ANTERÆ parvæ, luteæ.

GERMEN oblongum, compressum, glabrum. STYLUS suberectus, undique pilosus. STIGMA obtusum, fig. 3.

PERICARPIUM: LEGUMEN semunciale, pallide fuscum, glabrum, utrinque compressum, fig. 4.

SEMINA quatuor vel quinque in singulo legumine, subrotunda, nigricantia, fig. 5.

ROOT perennial and creeping.

STALK two, three feet or more in height, according to its place of growth, climbing, angular, grooved, downy, brittle, snapping when broken, branched.

STIPULÆ growing in pairs, each resembling half an arrow, entire or toothed.

LEAVES pinnated, composed of 8 or 12 pair, seldom more, oblong, lanceolate, terminated by a point, covered on each side with a kind of white silky down, the pinnæ opposite or alternate, terminated by a tripartite cirrhus.

FLOWERS growing in bunches or racemi.

RACEMI alternate, many-flowered, at first nearly upright, with the tip bent in, afterwards reflexed, flowers from 10 to 40, of a violet colour, crowded together, and standing on very short foot-stalks.

CALYX: a PERIANTHIUM of one leaf, tubular, coloured, having five teeth, the three lowermost longer than the upper ones, the middle one farthest extended, the two upper ones very minute, fig. 2.

COROLLA: STANDARD emarginate, reflexed, of a violet colour, faintly striped with veins of a deeper colour. WINGS closing. KEEL whitish, marked on each side at the tip with a deeply violet-coloured spot, fig. 1.

STAMINA: ten FILAMENTS, nine united, one single, white. ANTERÆ small and yellow.

GERMEN oblong, compressed, smooth. STYLE nearly upright, hairy all round. STIGMA blunt, fig. 3.

SEED-VESSEL: a POD about half an inch long, of a pale brown colour, flattened on each side, fig. 4.

SEEDS four or five in each pod, nearly round and blackish, fig. 5.

LINNÆUS, HALLER, and SCOPOLI, ascribe to this plant *stipulae integræ*. Indeed the two former found a part of their specific character on this very circumstance; but this character is certainly a very fallacious one, as the plant is frequently found with us having *stipulae dentatae*, and such is the specimen we have figured. It has, however, other characters by which it is obviously distinguished. The most striking are drawn from the leaves and flowers; the former are covered with a fine kind of silky down, which gives them a manifest whiteness. This is most apparent in such specimens as grow in dry, exposed situations. The flowers are of a rich deep purple colour, grow in long bunches or racemi, thickly crowded together, and are conspicuous at a distance.

It is a very common plant in the neighbourhood of London, and no where more plentiful than in Battersea Meadows. When it has an opportunity of climbing up a hedge, it will grow to the height of five or six feet; and it is then that its blossoms are displayed to advantage. In the open pastures and fields, it is found much more dwarfish.

It flowers from July to September.

Gentlemen who wish to decorate the hedges of their Plantations cannot select a more proper plant, as it is not apt, like the great Bindweed, Travellers-joy, and other strong growing plants, to suffocate the shrubs which support it.

It is recommended also, by some authors, as affording excellent fodder for cattle.



CREPIS TECTORUM. SMOOTH SUCCORY-HAWKWEED.

CRÈPIS Linn. Gen. Pl. SYNGENESIA POLYGAMIA ÈQUALIS

Recept. nudum. Cal. calyculatus, squamis deciduis. Pappus plumosus, fipitatus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

CREPIS tectorum foliis lanceolato-runcinatis sessilibus lœvibus, inferioribus dentatis. Linn. Syst. Veget. p. 600. Sp. Pl. p. 1135. Fl. Suec. n. 705.

HEDYPNOIS tectorum caule folioso ramoso, foliis runcinatis nudis, radicalibus lanceolatis, caulinis sagittatis acutis sessilibus. Hudson Fl. Angl. ed. 2. p. 341.

CREPIS foliis ad terram pinnatis, superne amplexicaulibus pinnatis hastatis. Haller Hist. n. 31.

CREPIS tectorum. Scopoli Fl. Carn. n. 954.

HIERACIUM luteum glabrum five minus hirsutum. I. B. II. 1024.

CICHOREUM pratense luteum lœvius. Bauh. Pin. 126. Park. 778.

HIERACIUM aphacoides. Ger. emac. 297.

HIERACIUM foliis et facie chondrillæ. Parkins. 794. Raii Syn. p. 165. Smooth Succory-Hawkweed. Lightfoot Fl. Scot. p. 440.

RADIX annua, simplex, parum fibrofa, descendens, ROOT annual, simple, furnished with few fibres, descending, yellowish.

CAULIS pedalis, bipedalis et ultra, erectus, angulato-striatus, nunc glaber, nunc hirsutulus, præfertim inferne, sœpe purpureus, foliosus, ramosus. STALK from one to two feet high or more, upright, somewhat angular and finely grooved, sometimes perfectly smooth, sometimes a little hairy, especially towards the base, often purple, leafy, and branched.

FOLIA valde variabilia, sœpe tota glabra, alias utrinque hirsutula, radicalia taraxaci perfimilia, sed paulo angustiora, nervo medio superne purpureo, caulina amplexicaulia, acuta, varie dentata, ramea subintegra, linearia, subsagittata, marginibus revolutis. LEAVES extremely variable, sometimes perfectly smooth, sometimes slightly hirsute on both sides, those next the root very like the leaves of dandelion, but a little narrower, the midrib purple on the upper side, those of the stalk embracing the stalk, pointed, and variously indented, those of the branches nearly entire, linear, and somewhat arrow-shaped, the edges rolled back.

FLORES inter minores hujus familie, flavi, laxe corybofi. FLOWERS smaller than most of this family, yellow, and growing loosely in a kind of corymbus.

CALYX communis duplex, exterior brevissimus, patulus, interior subcylindraceus, simplex, fulcatus, squamis erectis, linearibus, conniventibus, æqualibus, longitudinaliter pilis globuliferis hispidulis, squamæ ad basin quinque aut plures, subulatæ, breves, inæquales, laxæ, pariter hispidulæ. CALYX common to all the florets double, the exterior one very short and spreading, the interior one somewhat cylindrical, simple, and grooved, the scales upright, linear, connivent, equal, longitudinally beset with stiff hairs, having a little globule at their extremities, the scales at the base are about five or more in number, subulate, short, unequal, loose, and like the others slightly hispid.

COROLLA compofita, imbricata; Corollulis hermaphroditis, plurimis, æqualibus, propria monopetala, truncata, quinquedentata, subtus, plerumque purpurea, fig. 1. COROLLA compound, and imbricated; Florets hermaphrodite, numerous, and equal, each single floret monopetalous, truncated, having five teeth, and for the most part purple beneath, fig. 1.

STAMINA: FILAMENTA quinque, capillaria, brevifima. ANTHÈRE cylindracea, tubulofo, fig. 2. STAMINA: five very short capillary FILAMENTS. ANTHÈRE united into a cylindrical tube, fig. 2.

PISTILLUM: GERmen subovatum. STYLUS filiformis, longitudine staminum. STIGMATA duo, reflexa, fig. 3. PISTILLUM: GERmen somewhat ovate. STYLE filiform, the length of the stamina. STIGMATA two, turned back, fig. 3.

SEMINA viginti et ultra in singulo capitulo, fusca, striata; Pappus femine longior, sessilis, simplic, fig. 4. SEEDS twenty or more in each head, brown, and finely grooved; Down longer than the seed, sessile, and simple, fig. 4.

The great variety of appearances to which this plant is subject, in common with many others of the same class, has occasioned no small confusion among Botanists, especially the older ones, who have divided it into several species: even modern Botanists, and those of the first character, have confessed the difficulty of distinguishing it in its various states. LINNÆUS exclaims, *Nulla planta hac vulgatior, nulla magis structura et facie varians, nulla magis confusa synonymis.* HALLER writes, *Insuperabiles tenebræ synonyma obducunt:* and SCOPOLI says, *Melius diceretur Crepis VARIA.*

Perhaps nothing short of repeated observation will enable a Botanist to distinguish the same plant in its various states, especially such as are subject to such unusual variations; yet there is frequently some character not liable to be altered by difference of soil and situation, which, if pointed out, will be of great service in directing those who may not have plants constantly before them. RAY observes, that the flowers, heads, and seeds of this plant are smaller than those of any other English Hawkweed, the *Hyoseris* excepted (he might have added the *Hypochæris glabra*). To the smallness of the flowers, &c. may be joined the structure of the calyx and the stem-clasping leaves; and when it is known to be a plant growing generally in this country on dry banks, in pastures, and on walls, we flatter ourselves there will be little difficulty, with the assistance of our figure, which represents the plant of its medium size, in distinguishing it at all times.

It flowers from June to September.

Mr. HUDSON has thought proper to remove it from the genus *Crepis* of LINNÆUS, with which it must be owned it does not well accord, and make it an *Hedypnois*; yet it does not very well agree with the character he himself has given of that genus; for the pappus can scarcely be said to be subplumosus, unless very highly magnified.



Crepis tectorum.



Leontodon hispidum.

J. Sowerby del. et sculp.

LEONTODON HISPIDUM. ROUGH DANDELION.

LEONTODON Linn. Gen. Pl. SYNGENESIA POLYGAMIA AEQUALIS.

Recept. nudum. Calyx imbricatus, squamis laxiusculis. Pappus plumosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

LEONTODON *hispidum* calyce toto erecto, foliis dentatis integerrimis hispidis: setis furcatis.
Linn. Syst. Vegetab. p. 596. Sp. Pl. 1124. Fl. Suec. n. 694.

HEDYPNOIS scapo nudo unifloro, foliis lanceolatis dentatis hispidis. Hudson Fl. Angl. 340.

PICRIS caule nudo, unifloro, foliis asperis dentatis. Haller Hist. n. 25.

LEONTODON *hispidum*. Scopoli Fl. Carn. n. 977.

TARAXACONOIDES perennis et vulgaris. Vaill. Act. 1721, p. 232.

HIERACIUM asperum folio magno dentis leonis. Bauh. Pin. 127.

HIERACIUM dentis leonis folio hirsutum. Ger. emac. 303.

HIERACIUM asperum foliis et floribus dentis leonis bulboſi. Park. 788.

DENS LEONIS hirsutus $\lambda\epsilon\pi\lambda\kappa\alpha\mu\lambda\Theta$ Hieracium dictus. Raii Syn. p. 171. Rough Dandelion,
commonly called Dandelion Hawkweed. Lightfoot Fl. Scot. p. 433.

RADIX perennis, obliqua, e nigro-fusca, plurimis fibris pallidioribus, in terram recte demissis capillata.

SCAPI plerumque plures ex eadem radice, pedales aut sesquipedales, erecti, teretes, fistulosi, hirsuti, simplices, nudi, subinde foliolo five pluribus instructi, superne obvix striati et incrassati, ad basin purpurei.

FOLIA radicalia plurima, in pratis suberecta, in apricis supra terram expansa, palmaria seu spithamea, petiolata, oblonga, finuato-dentata, obtusiuscula, pallide virida, hirsuta, pilis ut etiam scapi furcatis.

FLORES majusculi, lutei, ante florescentiam semper nutantes.

CALYX fordide virens, squamæ laxe imbricatae, inæquales, pilis longis albidois plerumque simplicibus hirsutæ.

COROLLA composita, æqualis, flosculi quinquedentati, tubus superne pilosus, fig. 2.

SEMINA oblonga, sublinearia, longitudine fere pappi, exteriore paululum incurvati, interiores recti, ad lentem transverse rugosi, fig. 3.

PAPPUS pilosus, sessilis, fig. 4.

RECEPTACULUM planum, nudum, punctatum.

ROOT perennial, oblique, of a blackish brown colour, furnished with numerous fibres of a paler colour, running straight into the earth.

STALKS usually several from the same root, a foot or a foot and a half high, upright, round, hollow, hirsute, simple, naked, now and then furnished with one or more small leaves, above obviously striated, and thickened, purple at the base.

LEAVES: radical leaves numerous, in meadows nearly upright, in exposed situations expanded on the ground, a hand's breadth or more in length, standing on foot-stalks, oblong, indented and toothed, bluish, of a pale green colour, hirsute, the hairs as also those of the stalk forked at the extremity.

FLOWERS largish, yellow, before blowing always drooping.

CALYX of a dingy green colour, scales loosely imbricated, unequal, rough with long whitish hairs, which are for the most part simple.

COROLLA compound, equal, florets furnished with five teeth, the tube hairy on the upper part, fig. 2.

SEEDS oblong, nearly linear, almost the length of the pappus, the outer ones bending a little inward, the innermost ones straight, when magnified transversely wrinkled, fig. 3.

DOWN hairy, and sessile, fig. 4.

RECEPTACLE flat, naked, and dotted.

Like the other plants of the class *Syngenesia*, the *Leontodon hispidum* is subject to vary considerably in size and hairiness; but very luckily it has one character which attends it in all its states, and which never fails to distinguish it, its blossoms droop while in the bud: striking as this character is, we believe it has escaped the observation of former Botanists, at least it has not been considered as of the first consequence in ascertaining the species. The singleness of its stalks also contributes to distinguish it from some other plants of the same class, while the hairs on the leaves afford a more minute distinction, being usually bifid, but not always so.

As far as we have had opportunity of observing, it is a very general plant throughout the kingdom, especially where there is chalk or lime-stone. In such sort of pastures it abounds as much as the common Dandelion does in rich cultivated ones, and when in flower, which is usually in July, clothes them in the same golden livery.

As it forms so considerable a part of our pasturage, it is of some consequence that we should know whether Cattle are fond of it, either fresh or made into hay; and we wished to lay before our readers the result of LINNÆUS, or his pupils experiments, on this head; but, though a Swedish plant, it unfortunately proved to be one of those with which no experiments were made.

The common Dandelion, according to the Linnæan character, is certainly no *Leontodon*, the pappus being simple, and SCOPOLI has accordingly made another genus of it, *Hedypnois*.

Mr. HUDSON has united the present plant, the *Leontodon autumnale*, two species of *Crepis*, with the *Picris echinoidea*, under one genus of the same name *Hedypnois*; and HALLER arranges our plant with his *Picris*. Amidst all this confusion we have thought it best in the present instance to follow LINNÆUS, especially as there is nothing in the fructification of our plant which militates against the generic character of his *Leontodon*.

ONOPORDUM ACANTHIIUM. COTTON THISTLE.

ONOPORDUM. Lin. Gen. Pl. SYNGENESIA POLYGAMIA ÄQUALIS.

Recept. favosum. Cal. squamæ mucronatæ.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO,
SIVE CAPITATÆ.

ONOPORDUM *Acanthium* calycibus squarrofis: squamis patentibus, foliis ovato oblongis sinuatis.
Lin. Syft. Vegetab. p. 607. Sp. Pl. p. 1158. Fl. Suec. n. 724.

ONOPORDUM caule alato, foliis ovatis dentatis, dentibus angulosis aristatis. Haller Hift. n. 159.

ACANOS *Spina*. Scopoli Fl. Carn. n. 1013.

SPINA alba tomentosa latifolia sylvestris. Bauh. pin. 382.

ACANTHIIUM album. Ger. emac. 1149.

ACANTHIIUM vulgare. Parkins. 1149.

CARDUUS tomentosus *Acanthium* dictus vulgaris. Raii Syn. 196. Common Cotton Thistle.
Hudson Fl. Angl. ed. 2. p. 354. Lightfoot Fl. Scot. p. 459.

RADIX biennis.

CAULIS tripedalis ad sepedalem, ad basin usque ramosus, sublanuginosus, per totam longitudinem alatus, alis latis, spinosus, spinis lutescentibus, divergentibus.

RAMI longi, diffusi.

FOLIA sessilia, ovata, acuta, decurrentia, sinuata, dentata, seu angulosa, utrinque lanagine incana, inferiora amplissima, longitudine sesquipedalia, latitudine fere pedalia, margine spinosa.

FLORES purpurei, erexit, terminales, magnitudine florum Cardui mariani.

CALYX: communis subrotundus, ventricosus, imbricatus, squamis numerosis, spinosus, undique prominentibus, spinis apice luteis, basi pilis albis intertextis, fig. 1.

COROLLA: composita, tubulosa, uniformis; Corollæ hermaphroditæ, æquales, monopetalæ, infundibuliformes, tubo tenuissimo, fig. 2. limbo eretto, ventricoso, quinquefido, lacinias æqualibus, linearibus, fig. 3.

STAMINA: FILAMENTA quinque, capillaria, brevissima; ANTHERÆ purpureæ, in cylindrum coalitæ, quinquedentatae, fig. 4.

PISTILLUM: GERMEN ovatum, fig. 6. STYLUS filiformis, flaminibus longior; STIGMA bifidum, fig. 5.

PERICARPIUM nullum, Calyx arcte connivens.

SEMINA obovata, subcompressa, obsolete angulata, rugosa, nigricantia, fig. 7. Pappus sessilis, ad lentem hispidulus, fig. 8.

RECEPTACULUM cellulis membranaceis, tetragonis, reticulatum, favi instar, fig. 9.

ROOT biennial.

STALK from three to six feet high, branched down to the bottom, somewhat woolly, winged throughout its whole length, wings broad and spinous, the spines yellowish and diverging.

BRANCHES long, and spreading.

LEAVES sessile, ovate, pointed, running down the stalk, sinuated and indented or angular, covered on both sides with a kind of white woolly down, the lowermost leaves very large, a foot and a half long, and almost a foot in breadth, spinous on the edge.

FLOWERS terminal, purple, upright, the size of those of the Milk Thistle.

CALYX: common to all the florets, somewhat round, bellying out, and imbricated, the scales numerous, spinous, projecting on every side, the spines yellow at the points, and at the base interwoven with white hairs, fig. 1.

COROLLA compound, tubular, uniform, Florets hermaphrodite, equal, monopetalous and funnel-shaped, tube very slender, fig. 2. limb upright, bellying out, divided into five equal linear segments, fig. 3.

STAMINA: five capillary, very short FILAMENTS; ANTHERÆ purple, forming a cylindrical tube, terminating above in five teeth, fig. 4.

PISTILLUM: GERMEN ovate, fig. 6. STYLE filiform, longer than the stamina; STIGMA bifid, fig. 5.

SEED-VESSEL none, the Calyx closing strongly together.

SEEDS inversely ovate, a little flattened, faintly angular, wrinkled, blackish, fig. 7. Down sessile, slightly hispid when magnified, fig. 8.

RECEPTACLE reticulated with square, membranous cells, like a honeycomb, fig. 9.

When the Cotton-Thistle grows to its full size, in a pure air, uncontaminated by London Smoke, the grandeur and snowy whiteness of its foliage renders it highly conspicuous and ornamental.

With us it grows most commonly on the sunny side of dry banks, and occasionally among rubbish, but very seldom in open fields; hence it proves very little injurious to the husbandman.

It is distinguished from the Carduus tribe, by having a receptacle somewhat like a honeycomb, vid. fig. 9. It differs also in another circumstance. When the flowering is over, the innermost scales of the calyx close strongly together, and preserve the seed; in the Thistles, as soon as the seed is ripe, the first hot day opens the heads, expands the pappus, and the least wind carries away the seed; in the Onopordum they remain shut up, and strongly defended, nor can they commit themselves to the earth, or be eaten by birds, till long exposure to the weather has decayed the calyx which encloses them; on this account, they may afford sustenance to birds later in the year, when similar food is not to be obtained.

June and July are the principal months of its flowering.

It is not very subject to the depredations of insects, and it is defended by its strong spines from the attacks of most quadrupeds.



Onopordum Acanthium.



Prenanthes muralis

PRENANTHES MURALIS. IVY-LEAVED WILD LETTUCE.

PRENANTHES *Linn. Gen. Pl. SYNGENESIA POLYGAMIA AEQUALIS.*

*Recept. nudum. Calyx calyculatus. Pappus simplex, subsefilis.
Flosculi simplici serie.*

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.
PRENANTHES muralis flosculis quinis, foliis runcinatis. *Linn. Syst Vegetab. p. 596. Sp. Pl. 1121.
Fl. Suec. n. 692.*

PRENANTHES foliis ferratis pinnatis, pinna suprema trianguli trilobata. *Haller. Hist. n. 18.*

PRENANTHES muralis. *Scopoli Fl. Carn. n. 964.*

LACTUCA sylvestris murorum flore luteo. *I. B. II. 1004.*

SONCHUS laevis laciniatus muralis parvis floribus. *Bauhin Pin. 124.*

SONCHUS laevis muralis. *Ger. emac. 293.*

SONCHUS laevis alter parvis floribus. *Park. 805. Raii Syn. p. 162. Ivy-leaved Sow-thistle, or Wild Lettuce. Hudson Fl. Angl. ed. 2. p. 338. Lightfoot Fl. Scot. p. 431.*

RADIX perennis, ramosa, pallide fusca, lactescens.

ROOT perennial, branched, of a pale brown colour, and milky.

CAULIS pedalis ad tripedalem, erectus, simplex, foliosus, superne subflexuosus, teres, glaucus purpurascens.

STALK from one to three feet high, upright, simple, leafy, somewhat crooked towards the top, round, glaucous, and purplish.

FOLIA radicalia Soncho oleraceo persimilia, inferne purpurea, caulina alterna, amplexicaulia, patentia.

LEAVES next the root very like those of the common Sow-thistle, purple on the under side, those of the stalk alternate, spreading, and embracing it.

FLORES parvi, lutei, erecti, paniculati.

FLOWERS small, yellow, upright, growing in a panicle.

PANICULA ampla, nuda, ramosissima, purpurascens.

PANICLE large, naked, exceedingly branched and purplish.

CALYX communis cylindraceus, glaber, purpurascens, squamis cylindri numero corollarum, squamis ad basin cylindri tribus brevissimis inaequalibus, *fig. 1.*

CALYX: the common calyx cylindrical, smooth, purplish, the scales of the cylinder as numerous as the florets, with three, very short, unequal small ones at its base, *fig. 1.*

COROLLA composita, *Corollulae* hermaphroditæ plurique quinque, æquales, in orbem simpli-cem positæ, latiusculæ, nervosæ, quinqueden-tatæ, *fig. 2.*

COROLLA compound, *Florets* hermaphrodite, usually five in number, equal, forming a single circle, broadish, ribbed, terminated by five teeth, *fig. 2.*

STAMINA: FILAMENTA quinque, capillaria, brevissima, flava; ANTHERÆ cylindraceæ, tubulosæ.

STAMINA: five capillary FILAMENTS, very short and yellow; ANTHERÆ forming a hollow cylinder.

PISTILLUM: GERMEN subovatum; STYLUS filiformis, staminibus longior; STIGMA bifidum, reflexum, *fig. 3.*

PISTILLUM: GERMEN subovate; STYLE filiform, longer than the stamens; STIGMA bifid and reflexed, *fig. 3.*

SEmen oblongum, bafi acuminatum, nigrum, striatum: PAPPUS brevissime petiolatus, simplex, *fig. 4.* lente auct. *fig. 5.*

SEED oblong, pointed at the base and striated: DOWN standing on a very short foot-stalk, simple, *fig. 4.* magnified, *fig. 5.*

Some of the old Botanists considered this plant as a *Lactuca*; others as a *Sonchus*. It approaches nearest to the former, both in its fructification and habit, not but the foliage is very like that of the *Sonchus oleraceus*. LINNÆUS, from the paucity of its florets, makes a distinct genus of it, though number seems scarcely sufficient to constitute a generic character. This paucity of florets (there being seldom more than five) at once distinguishes it however from all its kindred; but at the same time we have known it not a little to puzzle students beginning to learn the classes, and who had studied them from such flowers as Dandelion.

It is not a very common plant with us, but is met with occasionally on walls, in woods, and other shady places. We observed plenty of it this year on the outside of the pales which terminate the Terrace at the Spaniard, Hampstead-Heath, on the declivity towards Lord Mansfield's little wood.

It flowers from July to September.



SONCHUS PALUSTRIS. MARSH or TREE SOW-THISTLE.

SONCHUS Linn. Gen. Pl. SYNGENESIA POLYGAMIA AEQUALIS.

Recept. nudum. Cal. imbricatus, ventricosus. Pappus plumosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

SONCHUS *palustris* pedunculis calycibusque hispidis subumbellatis, foliis runcinatis basi aristatis.
Linn. Syst. Vegetab. p. 594. basi sagittatis. Sp. Pl. p. 1116.

SONCHUS asper arborescens. Bauh. Pin. p. 124. ed. 2.

HIERACIUM arborescens palustre. Ejusd. ed. 1.

SONCHUS tricubitalis, folio cuspidato. Merr. Pin.

SONCHUS arborescens alter. Ger. emac. p. 294.

SONCHUS lævis altissimus vel Sonchus lævior austriacus 5. altissimus. Clus. Hist. CXLVII.

SONCHUS arborescens. Park. p. 808. Raii Syn. p. 163. The greatest Marsh-Tree Sow-Thistle.
Hudson Fl. Angl. p. 337.

RADIX	perennis, plurimis fibris majusculis capillata, minime vero repens sicut in arvensi.	ROOT	perennial, furnished with numerous large fibres, but not creeping, as in the corn Sow-Thistle.
CAULIS	: ex eadem radice exsurgunt caules plures, erecti, orgyales et ultra, crassitie pollicis, angulari, læves, purpurascentes, fistulosi, lactescentes, foliosi, apice ramosi.	STALK	: from the same root arise several stalks, upright, six feet or more high, the thickness of one's thumb, angular, smooth, purplish, hollow, milky, and branched at top.
FOLIA	caulina sparsa, inferiora basi sagittata, runcinata, laciniis duabus, vel tribus utrinque inæqualibus, acuminatis, terminali longissima, suprema integra, ensiformia, basi aristata, omnibus minutim denticulatis.	LEAVES	of the stalk placed without any regular order, the lower ones arrow-shaped at the base, and runcinate, with two or three unequal pointed segments on each side, the terminal one very long, the upper leaves entire, sword-shaped, bearded at the base, all of them very finely toothed.
FLORES	subumbellati, lutei, floribus arvensis duplo minores.	FLOWERS	of a yellow colour, about half the size of those of the corn Sow-Thistle, forming a large kind of umbel.
PEDUNCULI	hispidi seu potius viscidii cum omnes pili globulo terminantur.	FLOWER-STALKS	hispid or rather viscid, as each hair is terminated by a globule.
CALYX	: communis primo cylindraceus, apice truncatus, viscidus, peracta florescentia ventricosofunicus, squamis plurimis, linearibus, inæqualibus.	CALYX	: the common calyx at first cylindrical, truncated at top, and viscid, the flowering being over, bellying out at bottom and conical, the scales numerous, linear, and unequal.
COROLLA	composita, imbricata, uniformis. Corollulae hermaphroditæ, numerosæ, æquales. Tubus longitudine limbi, albus, pilosus. Limbus linearis, apice quinquedentatus, fig. 1, 2.	COROLLA	compound, imbricated and uniform. Florets hermaphrodite, numerous, and equal. Tube the length of the limb, white and hairy. Limb linear, terminated by five teeth, fig. 1, 2.
STAMINA	: FILAMENTA quinque, capillaria, brevissima. ANTHERÆ flavæ, in tubum cylindraceum coalitæ, fig. 3.	STAMINA	: five capillary, very short FILAMENTS. ANTHERÆ yellow, forming a cylindrical tube, fig. 3.
PISTILLUM	: GERMEN oblongo-ovatum, album. STYLUS filiformis, longitudine staminum, STIGMATA duo, revoluta, fig. 4, 5.	PISTILLUM	: GERMEN oblong-ovate, white. STYLE filiform, the length of the stamina. STIGMATA two, rolled back, fig. 4, 5.
SEmen	pallide fuscum, oblongum, utrinque sulcatum, unde subtetragonum appetet, fig. 6.	SEED	pale brown, oblong, with a groove on each side, whence it appears somewhat four cornered, fig. 6.
PAPPUS	semine longior, sessilis, simplex.	DOWN	longer than the seed, sessile, unbranched.
RECEPTACULUM	nudum, punctis prominulis sca- brum.	RECEPTACLE	naked, rough, with small prominent points.

PARKINSON gives a tolerable figure, and a pretty accurate description of this plant; and succeeding Botanists, particularly RAY, have sufficiently ascertained its specific characters: nevertheless HALLER considers it as a variety of the *arvensis*: his words are, "Nec mihi omnia consideranti differre videtur." Had the Baron seen the plant growing, he certainly would not have been thus singular in his opinion.

It agrees with the *arvensis* in having a perennial root, which however does not creep. When placed in a garden by the side of the *arvensis*, it exceeds it one half; and when planted by the water-side, out-tops it by two-thirds. Indeed, in such situations we have seen it ten feet high, and we believe it may justly be considered as the tallest English plant; but though it is so much taller than the *arvensis*, its blossoms are not so large. In its place of growth it differs also from the *arvensis*; while the one is chiefly observed in corn-fields, the other is a constant inhabitant of marshes. There is a difference also in the periods of their flowering, the *palustris* being later by about three weeks; but the base of the leaf in these two plants affords, perhaps, the best character, and of which LINNAEUS, with his usual acumen, has availed himself.

The *Sonchus palustris* occurs sparingly in the marshes about Blackwall and Poplar, and flowers the latter end of July.

The common Sow-Thistle is well known to be a favourite food of rabbits; but we believe it has scarcely been suspected, that it might be ranked with our esculent herbs; yet a gentleman, whose delicate state of health has led him to make experiments on such kind of plants, and in whose veracity we place the most implicit confidence, assures us, that he has found the tender shoots and buds of the common Sow-Thistle (the smooth sort) boiled in the manner of Spinach, to afford excellent greens, superior to any others which he has tried not in common use.

ACHILLEA PTARMICA. SNEEZEWORT.

ACHILLEA Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Receptaculum paleaceum. Pappus nullus. Calyx ovatus, imbricatus. Flosculi radii circiter 4.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS corymbiferæ DICTÆ.

ACHILLEA Ptarmica foliis lanceolatis acuminatis argute serratis. Linn. Syſt. Vegetab. p. 647. Sp. Pl. p. 1266. Fl. Suec. n. 771.

ACHILLEA foliis linearibus lanceolatis acutissime serratis. Haller Hift. 117.

DRACUNCULUS ferrato folio pratinis. Baub. p. 198.

PTARMICA Ger. emac. 606. Park. 859. Raii Syn. p. 183. Sneezewort, Bastard-Pellitory, Goose-Tongue. Hudson Fl. Angl. 375. Lightfoot Fl. Scot. p. 495.

RADIX	perennis, repens, alba, subgeniculata, fibris majusculis et longissimis donata e geniculis exeuntibus, sapore acri et fervido.	ROOT	perennial, creeping, white, somewhat jointed, furnished with large and very long fibres, which proceed from the joints, of a hot acrid taste.
CAULIS	pedalis ad tripedalem, erectus, plerumque simplex, rigidulus, inferne teres, glaber, superne subangulatus, villosus, paniculatum ramosus.	STALK	from one to three feet high, upright, generally simple, somewhat rigid, below round and smooth, above slightly angular, villous, and branching out into a kind of panicle.
FOLIA	numerosa, alterna, sessilia, amplexicaulia, linearia, acuta, bi vel triplicaria, utrinque glabra, lucidiuscula, saturate viridia, margine retrorsum scabra, subcrenata; crenis minutim ferrulato-aculeatis; subtus trinervia; nervis longitudinalibus, quorum intermedius est costa.	LEAVES	numerous, alternate, sessile, embracing the stalk, linear, pointed, two or three inches long, smooth on both sides, and somewhat shining, of a deep-green colour, the edge rough, if the finger be drawn along it from the top to the base, somewhat crenated, the notches forming a sharp prickly kind of saw, underneath having two longitudinal ribs, beside the midrib.
CORYMBUS	terminalis, compositus, erectus, villosus, foliosus.	CORYMBUS	terminal, compound, upright, villous, and leafy.
BRACTEÆ	lineares in pedunculis.	FLORAL-LEAVES	linear on the flower-stalks.
CALYX	communis hemisphericus, subtomentosus, imbricatus, squamis ovato-lanceolatis, erectis, subcarinatis, margine rufis, subciliatis.	CALYX	common to all the florets, hemispherical, somewhat woolly; the scales composing it placed one over another, of an oval-pointed shape, upright, somewhat keeled, the margin reddish, and slightly edged with hairs.
COROLLA	composita, radiata, flores femineæ in radio, ligulatae, numero 8-10, lamina ovata, alba, patens, bisulca, apice obtusa, tridentata, fig. 1. tubus marginatus, brevis, longitudine germinis, apice rubellus, fig. 2. flores hermaphroditæ, in disco numerosi, tubus subcylindraceus, marginatus, virescens; limbus quinquefidus, albus, tubo brevior, laciniis subrevolutis, fig. 3.	COROLLA	compound and radiate, female flowers in the circumference, tubular at bottom and spreading at top, from 8 to 10 in number, the lamina ovate, white, spreading, with two grooves, blunt at top, with three small blunt teeth, fig. 1. the tube two-edged, short, the length of the germen, and reddish at top, fig. 2. hermaphrodite flowers numerous in the centre, the tube nearly cylindrical, two-edged, greenish, the limb white, divided into five segments, shorter than the tube, the segments somewhat rolled back, fig. 3.
STAMINA	in hermaphroditis: FILAMENTA quinque, capillaria; ANTHERÆ flavæ, in tubum coalitæ, fig. 4.	STAMINA	in the hermaphrodite flowers; FILAMENTS five, very fine; ANTHERÆ yellow, uniting in a tube, fig. 4.
PISTILLUM	in femineis et hermaphroditis: GERMEN compressum, turbinatum; STYLUS filiformis; STIGMATA duo, revoluta, apicibus obtusis, fig. 5.	PISTILLUM	in the female and hermaphrodite flowers: GERMEN flattened, broadest at top; STYLE thread-shaped; STIGMATA two, rolled back, the ends blunt, fig. 5.
SEMINA	plurima, nuda, utrinque subalata, nitida, apice truncata.	SEEDS	numerous, naked, having a kind of wing on each side, shining, and cut off as it were at top.
RECEPTACULUM	paleaceum, squamis membranaceis, lineari-lanceolatis, obtusis, vix longitudine florum.	RECEPTACLE	chaffy, the scales membranous, of a shape betwixt linear and lanceolate, blunt, scarcely the length of the flowers.

The dried powder of this plant snuffed up the nostrils provokes sneezing, hence it has acquired its name of *Sneezewort*; chewed in the mouth, like *Pellitory* of Spain, it promotes the flow of the saliva, and is found serviceable in the cure of the tooth-ach: these appear to be the only medicinal purposes to which it is applied.

In its double state, it has long been an ornament in gardens, and distinguished by the name of *Bachelors Buttons*; having a creeping and very increasing root, it requires more care to destroy than to increase it.

It is a common plant in wet pastures and on heaths, and may be found in plenty by the sides of the ditches in Battersea-Meadows, where it flowers in July and August.

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Achillea Ptarmica.

J. Sowerby del. et sculp.

61 ANTHEMIS COTULA. STINKING MAYWEED.

ANTHEMIS Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLU A.

Recept. paleaceum. Pappus nullus. Cal. hemisphæricus, subæqualis.
Flosculi radii plures quam 5.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE SEMINIBUS PAPPO
DESTITUTIS CORYMBIFERÆ DICTÆ.

ANTHEMIS *Cotula* receptaculis conicis: paleis setaceis, seminibus nudis. Linn. Syst. Vegetab.
p. 646. Sp. Pl. p. 1261. Fl. Succ. n. 767.

CHAMÆMELUM foliis glabris, duplicato-pinnatis, nervo foliaceo, pinnulis lanceolatis, seminibus
exasperatis. Haller Hist. 104.

ANTHEMIS *Cotula*. Scopoli Fl. Carn. n. 1092.

CHAMÆMELUM fætidum. B. Pin. 135.

CHAMÆMELUM fætidum seu *Cotula* fætida I. B. III. 120.

COTULA alba Dod. Pempt. 258. Raii Syn. p. 185. Stinking Mayweed. Hudson Fl. Angl. ed. 2,
p. 373. Lightfoot Flor. Scot. p. 495.

Tota planta fœtidissima, sublanuginosa.	The whole plant extremely fetid, and slightly woolly.
RADIX annua, simplex, fibrosa.	ROOT annual, simple, and fibrous.
CAULIS pedalis ad bipedalem, erectus, subangulatus, striatus, pubescens, ramosus, sæpe usque ad basin.	STALK from one to two feet high, upright, somewhat angular, finely grooved, downy, branched often almost to the bottom.
FOLIA alterna, sessilia, sublanuginosa, pinnata, costa lineam lata, subtus carinata, pinnis plerumque ramosis, planis, acutis, superne punctis impressis, nudo oculo conspicuis notata.	LEAVES alternate, sessile, slightly woolly, pinnated, the midrib a line broad, keeled underneath, the pinnæ for the most part branched, flat, pointed, on the upper side marked with impressed dots visible to the naked eye.
PEDUNCULI erecti, striati, nudi, superne subincrassati.	FLOWER-STALKS upright, finely grooved, naked, somewhat thickened above.
FLORES albi, disco luteo; minime virescente.	FLOWERS white, the centre yellow, without any tendency to green.
CALYX communis hæmisphericus, imbricatus, squamis pallide virentibus, exterioribus obtusis, fusco marginatis, carina saturatius virente.	CALYX common to all the florets, hemispherical, imbricated, the scales of a pale green colour, the outer ones blunt, and edged with brown, the keel more deeply coloured.
FLOSCULI radii tredecem circiter, feminei subovati, lineas duas fere lati, obtusi, binerves, tridentati, dentibus obtusis, fig. 1. pars tubulosa flosculi ut ut <i>Germen</i> , glandulis pellucidis, nudo oculo conspicuis ornata, fig. 2. <i>Stigma</i> bifidum, laciniis reflexis, sæpe mancum, fig. 3.	FLOWERS of the radius about thirteen, female, nearly ovate, almost two lines broad, obtuse, two-rib'd, terminating in three obtuse teeth, fig. 1. the tubular part of the floret as well as the <i>Germen</i> , ornamented with transparent glands, visible to the naked eye, fig. 2. <i>Stigma</i> bifid, the segments reflexed, often imperfect, fig. 3.
FLOSCULI disci numerosi, tubulosi, hermaphroditi, quinquedentati, fig. 4. <i>Stigma</i> bifidum, laciniis revolutis, fig. 6. <i>Germen</i> ut ut corolla ad lentem glandulosa, fig. 5.	FLOWERS of the disk numerous, tubular, hermaphrodite, five-tooth'd, fig. 4. <i>Stigma</i> bifid, the segments rolled back, fig. 6. <i>Germen</i> as well as the corolla, when magnified, studded with little glands, fig. 5.
SEMEN obtuse tetragonum, fuscum, rugosum, apice planum, puncto in vertice prominulo, excavato, inferne attenuatum, fig. 7. aust.	SEED bluntly four-cornered, brown, wrinkled, flat at top, with a prominent hollow point in the centre, below slenderer, fig. 7. magnified.
RECEPTACULUM subcylindraceum, superne paleis setaceis, rigidis instructum, fig. 8.	RECEPTACLE nearly cylindrical, on the upper part furnished with rigid, bristle-shaped paleæ or chaff, fig. 8.

The *Anthemis Cotula*, like the *Matricaria Chamomilla*, is very common in corn-fields, where it is well known frequently to blister the skin of the reapers, or of children who may happen to gather it, which the *Matricaria* never does;—if the plant be examined with a microscope, it will be found besprinkled with little glands, in which its acrid matter most probably resides.

Independent of this quality, it abounds to that degree in some corn-fields, as greatly to diminish the crop.

It is fond of a soil well manured, and as it is frequently suffered to feed on dunghills, it by that means often becomes more generally disseminated: farmers cannot be too careful in weeding their dunghills; they are not aware of the amazing increase from a single plant of the *Anthemis Cotula*, *Rumex crispus*, *Chenopodium album*, or many others equally, if not more, injurious.

We have observed the petals to vary much in length and breadth, and Botanists have sometimes found it with double flowers.

It differs greatly in its qualities from the *Anthemis nobilis* and *Matricaria Chamomilla*, has never been much in use, nor are its medicinal effects well known. Decoctions of it are said sometimes to have been employed as a bath or fomentation against hysterical suffocations, and hæmorrhoidal pains and swellings. Mr. RAY says, that a decoction of the herb has by some been given internally, with success, in scrophulous cases. BROWN LANGRISH gives an account of a decoction of it throwing a person afflicted with rheumatism into a profuse sweat, and curing him. Lewis's Mat. Med. p. 223. Vid. *Matricaria Chamomilla*.



Anthemis Cotula.



Chrysanthemum leucanthemum.

Drupe.

CHRYSANTHEMUM LEUCANTHEMUM. COMMON OX-EYE, or GREATER DAISY.

CHRYSANTHEMUM Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. *Pappus marginatus. Cal. hemisphæricus, imbricatus, squamis marginalibus membranaceis.*

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

CHRYSANTHEMUM *Leucanthemum* foliis amplexicaulibus oblongis; superne ferratis; inferne dentatis. Linn. Syst. Vegetab. ed. 14. p. 772. Sp. Pl. p. 1251. Fl. Suec. n. 763.

MATRICARIA foliis radicalibus petiolatis, ovatis, crenatis, caulinis amplexicaulibus dentatis. Haller Hist. 98.

MATRICARIA *Leucanthemum*. Scopoli Fl. Carn. n. 1041.

BELLIS sylvestris caule folioso major. Baub. Pin. 261.

LEUCANTHEMUM vulgare. Tourn. 492.

BELLIS major. Ger. emac. 634.

BELLIS major vulgaris sive sylvestris. Parkins. 528. Raii Syn. p. 184. The Greater Daisy, or Ox-Eye. Lightfoot Fl. Scot. p. 488. Hudson Fl. Engl. ed. 2. p. 371.

RADIX perennis, fusca, subrepens, fibrosa.

CAULIS pedalis, sesquipedalis et ultra, erectus, rigidus, angulosus, inferne purpurascens, hirsutus, superne nudus, simplex, subinde ramosus.

FOLIA radicalia a caulinis diversissima, petiolis longis insidentia, obovata, vix pubescentia, inciso-ferrata, caulina alterna, sessilia, amplexicaulia, linearia, exrorsum latiora, remote denticulata, denticulis ad basin crebrioribus et longioribus.

FLORES pedunculati, terminales, solitarii, magni, speciosi.

PEDUNCULI striati, subincrassati.

CALYX communis hemispherico-planus, arcte imbricatus, squamis exterioribus oblongo-ovatis, obtusiusculis, margine membranaceis, fuscis, interioribus lanceolatis, acutis.

COROLLA composita, radiata; Discus luteus, convexus; Radius albus, patens.

COROLLULÆ Hermaphroditæ, tubulosæ, numerosæ, infundibuliformes, quinquefidæ, in disco, fig. 1. Femininæ 16 circiter, in radio, oblongæ, obtusæ, tricrenatæ, fig. 5.

ANTHERÆ flavæ, in tubum coalitæ, fig. 2.

PISTILLUM Hermaphroditis: GERMEN oblongum, striatum, angulatum, glabrum, fig. 3. STYLUS filiformis, staminibus longior; STIGMATA duo, subrevoluta, superne ad lentem canaliculata, apicibus truncatis, crassiusculis, fig. 4. Femineis GERMEN et STYLUS ut in Hermaphroditis; STIGMA subsimile, laciinis minus revolutis, fig. 6.

SEMEN oblongum, basi attenuatum, undique profunde sulcatum, ex nigro purpurascens, fig. 7, 8. fig. 9. auct.

ROOT perennial, brown, somewhat creeping, and fibrous.

STALK a foot or a foot and a half high or more, upright, rigid, angular, below purplish and hairy, above naked, simple, sometimes branched.

LEAVES next the root very different from those of the stalk, standing on long footstalks, obovate, scarcely downy, deeply sawed, those of the stalk alternate, sessile, stem-clasping, linear, outwardly broadest, distantly toothed, teeth at the base more crowded and longest.

FLOWERS standing on footstalks, terminal, single, large, and showy.

FLOWER-STALKS finely grooved, and somewhat thickened.

CALYX common to all the florets, like a hemisphere flattened, closely imbricated, exterior scales oblong-ovate, somewhat blunt, the margin membranous and brown, interior scales lanceolate and pointed.

COROLLA compound and radiate; Centre yellow and convex; Circumference white and spreading.

FLORETS Hermaphrodite tubular, numerous, funnel-shaped, divided into five segments, in the centre, fig. 1. Female about fifteen in the circumference, oblong, obtuse, three-notch'd, fig. 5.

ANTHERÆ yellow, forming a tube, fig. 2.

PISTILLUM of the Hermaphrodite flowers: GERMEN oblong, finely grooved, angular, smooth, fig. 3. STYLE filiform, longer than the stamens; STIGMATA two, rolled a little back, on the upper part channelled if magnified, the tips truncated and thickish, fig. 4. of the Female flowers, GERMEN and STYLE as in the Hermaphrodite flowers; STIGMA somewhat similar, but less rolled back, fig. 6.

SEED oblong, slenderer towards the base, deeply grooved all round, and purplish black, fig. 7, 8. fig. 9. magn.

This species of Chrysanthemum is extremely common in meadows and pastures, sometimes even on walls, and in corn-fields; it is a hardy perennial, increases greatly by seed, and flowers in June and July.

As it is so prevalent in pastures, it is of no small consequence to ascertain how far it is agreeable to cattle, and, on such occasions, the only guide we have at present to consult, are the experiments of LINNÆUS; from those it appears that kine and swine refuse it, but that horses, sheep, and goats feed on it.

The fresh leaves chewed, discover a sweetish, unpleasant, slightly aromatic taste, somewhat like Parsley, but not hot or biting; they have been recommended in disorders of the breast, both asthmatical and phthisical, and as diuretics, but are now seldom called for.

As such a number of beautiful double varieties of the Common Daisy are met with in almost every garden, it has often been matter of wonder to us, that we never see this plant in a similar state: I have indeed been very credibly informed, that two double varieties of this plant exist in a garden near Air in Scotland, but never yet saw them.



Matricaria Chamomilla.

J. Sowerby del & sculp.

MATRICARIA CHAMOMILLA. CORN FEVERFEW, or CAMOMILE.

MATRICARIA Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus nullus. Cal. hemisphæricus, imbricatus: marginalibus solidis, acutiusculis.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

MATRICARIA Chamomilla receptaculis conicis, radiis patentibus, squamis calycinis margine æqualibus. Linn. Syst. Vegetab. p. 643. Sp. Pl. p. 1256. Fl. Suec. n. 764.

MATRICARIA foliis planis capillaribus, duplicato-pinnatis, pinnulis lanceolatis bifidis trifidisque. Haller. Hist. n. 101.

CHAMÆMELUM vulgare, Leucanthemum Dioscoridis. Baub. Pin. 135.

CHAMÆMELUM Gerard. emac. 754.

CHAMÆMELUM vulgare Parkins. 85. (qui vulgare cum nobili confundit) Raii Syn. p. 185. Hudson Fl. Angl. ed. 2. p. 372. Lightfoot Fl. Scot. p. 491.

RADIX annua, simplex, fibrosa.

CAULIS pedalis, ad sesquipedalem, erectus, ramosus, subangulosus, striatus, lœvis.

FOLIA saturate viridia, alterna, sessilia, lœvia, pinnata, pinnis linearibus, inferioribus simplicibus, superioribus ramosis, pinnulis acutis, mucronatis, divaricatis, costa semilineam lata, carinata.

PEDUNCULI erecti, striati, nudi, superne subincrassati.

FLORES albi, disco e luteo-virescente.

CALYX communis hemisphæricus, squamis plurimis, imbricatis, obtusiusculis, apice fuscescentibus, submembranaceis, longitudine fere tubi flororum femineorum in radio, fig. 1.

FLOSCULI radii 13 circiter, feminei, oblongi, sesquilineam lati, bisulci, tridentati, dentibus obtusiusculis, fig. 2. STIGMA bifidum, flavum, lacinii reflexis, fig. 3.

FLOSCULI disci, numerosi, tubulosi, hermaphroditici, quinquedentati, fig. 4. STIGMA bifidum, lacinii reflexis, fig. 5.

SEMINA numerosa, minuta, pallide, fusca, oblonga, fulcata, fig. 6.

RECEPTACULUM oblongum, nudum.

ROOT annual, simple, and fibrous.

STALK a foot, or a foot and a half high, upright, branched, somewhat angular, striated, and smooth.

LEAVES of a deep green colour, alternate, sessile, smooth, pinnated, the pinnæ linear, the lower ones simple, the upper ones branched, the pinnulæ or small pinnæ sharp and terminating in a short point, divaricating, the midrib half a line broad, and keeled.

FLOWER-STALKS upright, striated, naked, a little thickened above.

FLOWERS white, the disk of a yellowish-green colour.

CALYX common to all the florets, hemispherical, scales numerous, imbricated, somewhat obtuse, the tips brownish, and a little membranous, almost the length of the tube of the female flowers in the circumference, fig. 1.

FLOWERS of the radius about 13 in number, female, oblong, a line and a half broad, two-grooved, three-toothed, teeth blunfish, fig. 2. STIGMA bifid, yellow, the segments turned back, fig. 3.

FLOWERS of the disk, numerous, tubular, hermaphrodite, five-toothed, fig. 4. STIGMA bifid, the segments turned back, fig. 5.

SEEDS numerous, minute, of a pale brown colour, oblong and grooved, fig. 6.

RECEPTACLE oblong, and naked.

The *Matricaria Chamomilla*, *Anthemis Cotula*, and *Chrysanthemum inodorum*, are three very common plants in the neighbourhood of London; as the two first are extremely similar in their general appearance, and are often found growing together, we have published them in the same number, that an opportunity might be afforded of comparing and contrasting them.

PARKINSON, deceived by their great similarity, makes only one plant of them; *Mayweed*, says he, is so like unto Chamomile, that I must needs join them together.

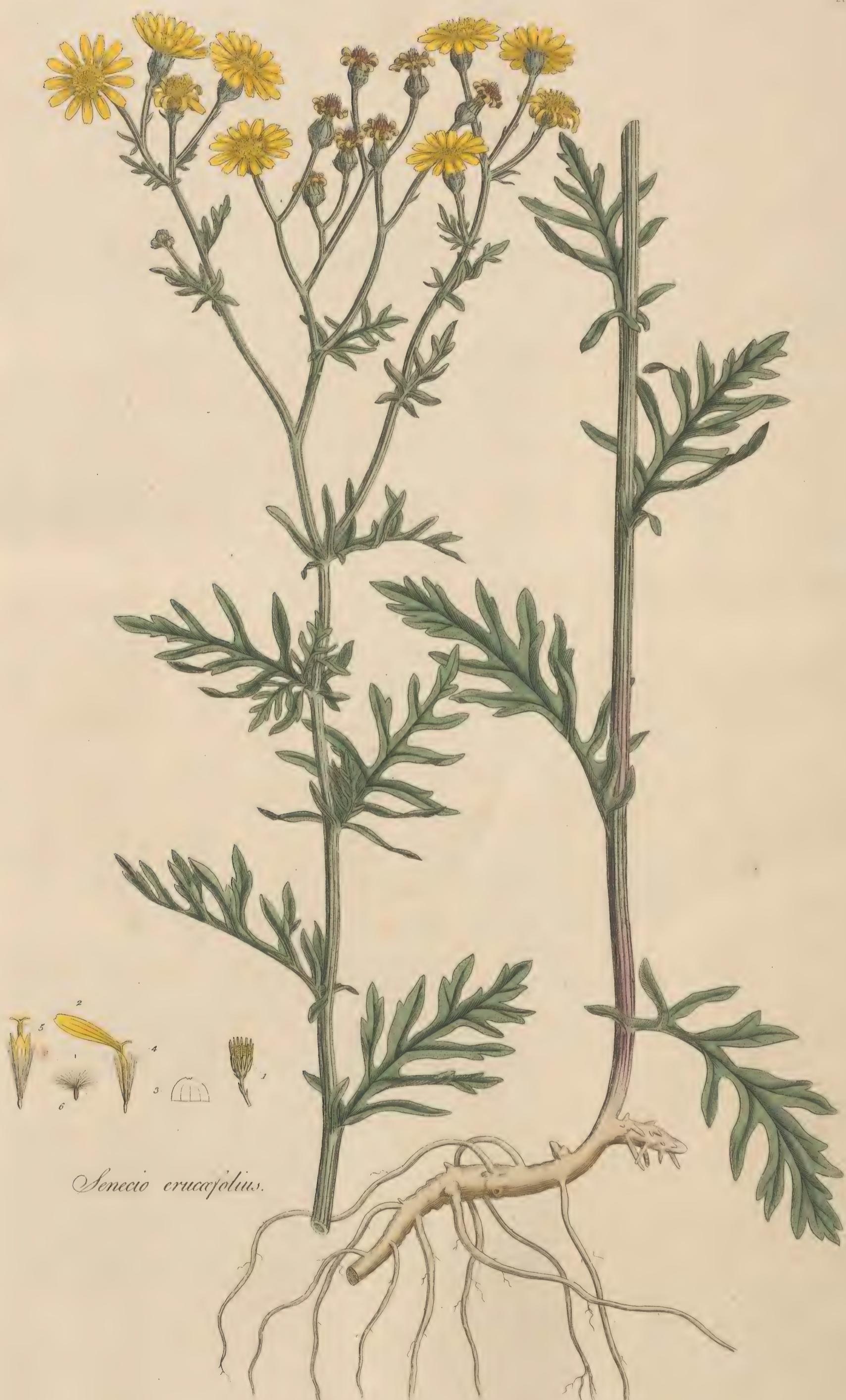
The student who is acquainted with the mode of investigating the generic character of each, will quickly distinguish the one from the other; on dissecting the heads, he will find the pointed paleæ which are fixed to the receptacle of the *Anthemis* totally wanting in the *Matricaria*; but this knowledge, though highly necessary, is not sufficient for those who would wish to know plants at first sight, which is always desirable; we shall therefore, in addition to the generic character, point out several others, in which they have appeared to us materially to differ from each other.

Their place of growth affords but little distinction, they are both natives of corn-fields, both grow in them in the greatest abundance, often together, frequently separate, nor is it unusual to find them on the confines of dunghills, and by road-sides; they both flower at the same time, from May to July and August, both are annuals, and grow nearly to the same height, but in the following particulars they differ: the whole plant in the *Matricaria* puts on a deep green colour, and somewhat shining appearance; the *Anthemis*, on the contrary, assumes a much paler hue, and the stalk is often covered with a kind of woolly substance: the leaves in the *Matricaria* are nearly as fine as those of fennel, which they distantly resemble; in the *Anthemis* they are almost twice as broad, and the points of them, which in the *Matricaria* are simple, in the *Anthemis* are often bifid.

The Petals in both these plants begin to hang down in the evening, and continue to do so till morning; but those of the *Anthemis* are in general much broader than those of the *Matricaria*, and somewhat shorter; but, in this particular, both plants are subject to great variation; the disk of the flower in the *Anthemis* is not so prominent, but of a lighter yellow than that of the *Matricaria*. Such are the characters which present themselves to the eye of an accurate observer, but there is another which will greatly assist to corroborate, confirm, and render it impossible for the plants to be mistaken, viz. the smell; if the heads of the *Matricaria* are bruised, they will be found to emit a strong smell, somewhat resembling the true Chamomile, but not so pleasant, while the heads of the *Anthemis*, treated in the same manner, smell intolerably disagreeable; another circumstance may also be added, the *Matricaria* is not known to blister the skin, in which alone it is perhaps less mischievous to the husbandman than the other: nor is the character which may be drawn from the seeds to be despised, those of the *Anthemis* being broad and truncated at top, wrinkly, and of a deep brown colour when ripe, those of the *Matricaria* much smaller, paler, and different in their shape, vid. fig. 6.

July 7th, we discovered several larvæ feeding on this species, which produced the *Caffida viridis*.—Cattle in general refuse the *Matricaria*.—In Sweden the flowers are used medicinally instead of the *Anthemis nobilis*.

Mr. HUDSON, in our opinion, is perfectly justified, in making one plant of the *Matricaria Chamomilla* and *suaveolens*; Mr. LIGHTFOOT, in his *Flora Scotica*, previously suggested that they were the same. We are surprised that Professor MURRAY should adopt a species founded on such vague characters as *radiis deflexis* and *radiis patentibus*.



Senecio erucifolius.

Tenuifolius. Witt.

SENECIO ERUCÆFOLIUS. HOARY RAGWORT.

SENECIO *Lin. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.*

Recept. nudum. Pappus simplex. Cal. cylindricus, calyculatus: squamis apice sphacelatis.

Raii. Syn. Gen. 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES FLORE DISCOIDE.

SENECIO *erucæfolius* corollis radiantibus, foliis pinnatifidis dentatis subhirtis, caule erecto. *Lin. Syst. Vegetab. p. 631. Sp. Pl. p. 1218. Fl. Suec. p. 750.*

JACOBÆA altissima, foliis erucæ artemisiæve similibus et æmulis. *Rupp. Jen. 164.*

JACOBÆA *Senecionis folio incano perennis.* *Raii. Syn. p. 177.* Hoary perennial Ragwort with Groundsel leaves. *Hudson. Fl. Angl. p. 366.*

RADIX perennis, alba, plures turiones crassitie pennæ anserinæ, unciales, aut biunciales, sapore in grato, in sequentem annum proferens.

CAULIS erectus, tripedalis, foliosus, rigidus, substria tus, purpureus, lanuginosus.

FOLIA alterna, semiamplexicaulia, subtus hirsuta, etiam incana, omnia pinnata seu potius pin natifida, pinnis linearibus, acutis, dentatis.

FLORES lutei, numerosi, corymbosi, magnitudine fere florum Senecionis Jacobæa.

CALYX communis sub-cylindraceus, sulcatus, squamis tredecim, æqualibus, margine membranaceis, apicibus hirsuto-glandulosis, nulla nigredine tintis, squamulis paucis linearibus adpressis ad basin, fig. 1.

COROLLA composita, radiata, *Flosculi seminei* in radio tredecim circiter, patentes, oblongi, obsolete tridentati, fig. 2. *Hermaphroditæ* numerosi in disco, limbo quinquefido, suberecto, fig. 3.

STAMINA: FILAMENTA quinque capillaria. AN THERÆ in cylindrum coalitæ, fig. 5.

SEMEN oblongum, hispidulum, pappo sessili, simplici instructum, fig. 6.

ROOT perennial, white, putting forth against the next year several shoots, the thickness of a goose quill, an inch or two inches in length, of a disagreeable taste.

STALK upright, three feet high, leafy, rigid, slightly striated, purple and woolly.

LEAVES alternate, half embracing the stalk, hairy underneath, and sometimes white with down, all of them pinnated, or rather pinnatifid, the pinnæ linear, pointed and toothed.

FLOWERS yellow, numerous, almost the size of the flowers of the common Ragwort, growing in a corymbus.

CALYX common to all the florets, somewhat cylindrical, grooved, scales thirteen in number, equal, membranous at the edge, the tips hairy and somewhat glandular, not tinged with black, furnished with a few linear scales at the base, which are pressed close, fig. 1.

COROLLA compound and radiate, *Female flowers* in the circumference about thirteen in number, spreading, oblong, faintly three-toothed, fig. 2. *Hermaphrodite flowers* in the centre numerous, the limb divided into five segments and nearly upright, fig. 3.

STAMINA: five capillary FILAMENTS. ANTHERÆ united, and forming a cylinder, fig. 5.

SEED oblong, a little hispid, furnished with sessile, simple down, fig. 6.

We have no doubt but the plant here figured is the *Jacobæa Senecionis folio incano perennis* of Ray's *Synopsis*, ed. 3. p. 177. It certainly has a less jagged, and more groundsel-like leaf, than the common Ragwort. Its leaves and stalks are also in general hoary, especially the latter*; and so far the description discriminates; but why perennis? since both the *aquaticus* and *Jacobæa*, with which it has the greatest affinity, are considered as perennial. We believe also, that our plant is the *Jacobæa altissima, foliis Erucæ Artemisiæve similibus et æmulis* of Ruppius *Fl. Jen. ed. Hall. p. 176.* And as this descriptive name appears among those which LINNÆUS applies to his *Erucæfolius*, we consider ourselves warranted in adopting his name of *Erucæfolius*. Baron HALLER, who oftener makes species of varieties, than varieties of species, in the present instance considers this plant as a variety only of the *Jacobæa*. Professor JACQUIN, in his *Flora Austriaca*, gives a figure and description of a *Senecio*, which he calls *tenuifolius*; but as he adduces no synonyms, and as his figure differs in some respect from our plant, though we strongly suspect it to be the same, we dare not consider it as such.

The *Senecio Erucæfolius*, though not so common as the *Jacobæa*, is not unfrequent in the neighbourhood of London in certain situations, particularly in the environs of woods, under hedges, among bushes, &c. and no where more abundant than about the Oak of Honour Wood, near Peckham. The *Jacobæa*, on the contrary, delights to grow in open hilly pastures, church-yards, by road sides every where: nor do these plants differ less in their usual period of flowering; the *Erucæfolius* flowering chiefly in August, a month later than the other.

* This hoariness is most observable when the plant is young, or when it grows in a woody and hilly situation, which it chiefly affects. When it is found in a moist soil, or cultivated in a garden, it loses this character, in common with many other plants of the same class.

ORCHIS LATIFOLIA. MARSH ORCHIS.

ORCHIS Linn. Gen. Pl. GYNANDRIA DIANDRIA.

Nectarium corniforme pone florem;

Raii Syn. HERBÆ BULBOSIS AFFINES.

ORCHIS *latifolia* bulbis subpalmatis rectis, nectarii cornu conico : labio trilobo lateralibus reflexo, bracteis flore longioribus. Linn. Syst. Vegetab. ed. 14. p. 810. Sp. Pl. 1334. Fl. Suec. n. 801.

ORCHIS radicibus palmatis, caule fistuloso, bracteis maximis, labello trifido ferrato: medio segmento obtuso. Haller Hist. 1279. t. 32.

ORCHIS *latifolia*. Scopoli Fl. Carn. n. 1118.

ORCHIS palmata pratensis latifolia, longis calcaribus. Baub. Pin. 85.

PALMA CHRISTI mas. Ger. emac. 220.

ORCHIS palmata mas f. Palma Christi mas. Park. 1356.

ORCHIS palmata non maculata. I. B. II. 774. Raii Syn. p. 380. The Male-Handed Orchis, or Male Satyrion Royal. Lightfoot Fl. Scot. p. 516. Hudson Fl. Engl. ed. 2. p. 385.

RADIX bulbosa, bulbis palmatis.

ROOT bulbous, bulbs palmated, or handed.

CAULIS plerumque pedalis aut sesquipedalis; ad apicem fere foliosus, crassus, fistulosus, superne subangulosus, glaber.

STALK usually a foot or a foot and a half high, leafy, almost to the top, thick, hollow, somewhat angular above, perfectly smooth.

FOLIA e flavo viridia, suberecta, glabra, nobiscum immaculata, plerisque hujus generis et longiora et latiora.

LEAVES of a yellowish-green colour, nearly upright, smooth, spotless with us, and both longer and broader than most of this tribe.

FLORES nobiscum saepius rosei seu carnei, saepe purpurei, raro albi, spicati, conferti.

FLOWERS with us for the most part rose or flesh-coloured, often purple, rarely white, growing in a spike thickly together.

SPICA subovata, foliosa.

SPIKE somewhat ovate, and leafy.

BRACTEÆ magnæ, acuminatæ, coloratæ, fig. 1.

FLORAL-LEAVES large, long-pointed, and coloured, fig. 1.

COROLLA: petala quinque, duo exteriora ovato-lanceolata, suberecta, parum maculata, fig. 3. interiora conniventia, fig. 4. Calcar germine brevius, conicum, incurvum, obtusum.

COROLLA pentapetalous, the two outermost ovato-lanceolate, nearly upright, spotted a little, fig. 3. the innermost closing together, fig. 4. the Spur shorter than the germen, conical, incurved, and blunt.

NECTARIUM obsolete trilobum lineolis et punctis saturationibus pulchre variegatum, lateribus per æstatem reflexis, fig. 2.

NECTARY faintly three-lobed, beautifully variegated with small lines and dots of a deeper colour, the sides reflexed with age, fig. 2.

STAMINA: FILAMENTA duo; ANTHERÆ sub-rotundo-clavatae, e luteo-virescentes, fig. 5. auct.

STAMINA: two FILAMENTS; ANTHERÆ roundish, club-shaped, of a yellowish-green colour, fig. 5. magnified.

The *Orchis Latifolia* is particularly distinguished from the others, by growing (with us at least) only in very wet meadows, where *Valeriana dioica*, *Menyanthes trifoliata*, and *Lychnis Flos Cuculi*, usually abound, and from which circumstance, we have called it *Marsh Orchis*, by its spotless foliage, which is of a yellowish-green colour, and by the uncommon length of the floral leaves, which give the spike a very leafy appearance.

It comes nearest to the *maculata*: HALLER represents the leaves somewhat spotted, and LINNÆUS describes them *parum maculata*; we do not find them so in the neighbourhood of London; but probably they may be so in other places: should that be the case, these two plants will approach still nearer to each other.

With us, pink is the most predominant colour of its blossoms, though they are frequently found purple, and sometimes white; even in the same meadow.

We need go no further than Battersea-Meadows to find this plant in tolerable abundance; at a greater distance from town it will be found much more plentifully; it flowers towards the latter end of May.

It is more easily cultivated than many of the same genus, and if planted in a moist border, in a mixture of bog earth and loam, will grow to a much greater size than is represented on the plate.



Orchis luteola.

SPARGANIUM RAMOSUM. GREAT BUR-REED.

SPARGANIUM Lin. Gen. Pl. MONOECIA TRIANDRIA.

MASC. Amentum subrotundum. Cal. 3-phylus. Cor. o.

FEM. Amentum subrotundum. Cal. 3-phylus. Cor. o. Stigma 2-fidum. Drupa exfucca, 1-sperma.

Raii Syn. GRAMINIFOLIÆ NON CULMIFERÆ SINGULARES ET SUI GENERIS.

SPARGANIUM ramosum foliis basi triangularibus, lateribus concavis, pedunculis ramosif.

SPARGANIUM erectum foliis erectis triquetris. Lin. Syst. Vegetab. p. 702. Sp. Pl. p. 1378. Fl. Suec. n. 831.

SPARGANIUM caule foliisque erectis. Haller. Hist. 1303.

SPARGANIUM erectum. Scopoli Fl. Carn. n. 1146.

SPARGANIUM ramosum. Baub. Pin. 15. Ger. emac. 45. Parkins. 1205. Raii Syn. 437. Branched Bur-Reed. Hudson Fl. Engl. ed. 2. p. 401. Lightfoot Fl. Scot. p. 539.

RADIX	perennis, repens, radiculis fibrillis numero-	ROOT	perennial, and creeping, the small roots furnished with very numerous fibres.
CULMUS	bipedalis, tripedalis, et ultra, erectus, teres, glaber, foliosus, foliis tribus circiter, præter bracteas.	STALK	two, three feet high, or more, upright, round, smooth, leafy, leaves about three in number besides the floral leaves.
FOLIA	radicalia erecta, saturate viridia, culmo duplo fere longiora, basi vaginantia, equitantia, paulo supra basin fere ad apicem usque triquetra, latere interiore planiusculo, duobus exterioribus concavis.	LEAVES	next the root upright, of a deep green colour, almost twice the length of the stem, sheath at bottom and riding one on the other, from the base nearly, almost to the top three-cornered, the inner side almost flat, the two outermost hollow.
BRACTEÆ	quatuor circiter, foliis caulinis subsimiles, inferioribus longioribus.	FLORAL-LEAVES	about four in number, somewhat like the leaves of the stalk, the lowermost longest.
FLORES	monoici, in capitula collecti, spicati.	FLOWERS	monoicous, formed into little heads, and growing in spikes.
PEDUNCULI	axillares, alterni, flexuosi, multiflori, capitulis sessilibus, inferioribus femineis, duobus aut tribus, superioribus masculis pluribus; pedunculi supremi flores masculos tantum gerunt.	FLOWER-STALKS	growing from the bosoms of the leaves, alternate, crooked, supporting many flowers, the little heads sessile, the lowermost ones female, two or three in number, the uppermost ones male, and more numerous; the uppermost flower-stalks bear only male flowers.
CALYX	Flor. Masc. Amentum commune, subrotundum, undique densissime imbricatum, constans Perianthiis propriis plerumque triphyllis, basi linearibus, apice ovato-acutis, deciduis, fig. 1. auct.	CALYX	of the Male Flowers. One common roundish Catkin, closely imbricated on every side, and composed of numerous individual Perianthia, consisting for the most part of three leaves, linear at the base, ovate and pointed at top, and deciduous, fig. 1. magnified.
COROLLA	nulla.	COROLLA	none.
STAMINA:	FILAMENTA plerumque tria, capillaria, longitudine calycis; ANTHÆ oblongæ, flavæ, fig. 2.	STAMINA:	usually three capillary FILAMENTS, the length of the calyx; ANTHÆ oblong, yellow, fig. 2.
CALYX	Flor. Fem. Perianthium ut in masculo, at basi latior, magis concavus, nec deciduus, fig. 3.	CALYX	of the Female Flowers. A Perianthium as in the males, but broader at the base, more concave, and not deciduous, fig. 3.
PISTILLUM:	GERMEN oblongo-ovatum, angulatum, definens in STYLUM brevem subulatum; STIGMA oblongum ad unum latus villosum, fig. 4.	PISTILLUM:	GERMEN oblongo-ovate, angular, terminating in a short tapering STYLE; STIGMA oblong, villous on one side, fig. 4.
PERICARPIUM:	DRUPA exfucca, turbinata cum acumine, inferne angulata, fig. 5.	SEED-VESSEL:	a juiceless DRUPE, turban-shaped and pointed; angular below, fig. 5.
SEMEN:	NUCES duæ, osseæ, oblongo-ovatæ, fig. 6.	SEEDS:	two bony NUTS, of an oblong ovate shape, fig. 6.

The *Sparganium ramosum* having a very strong creeping root, is one of those plants which very soon fill up a ditch or piece of water, if suffered to remain unmolested; we have not seen it more plentiful anywhere than in the Isle of Dogs, the ditches of which are full of it.

We know of no use to which it is applicable.

The stalk is liable to be eaten by some kind of larva whose history we have not yet discovered, the leaves by the larva of a Tenthredo unknown to us, as well as by the larva of the *Phalæna Festuca*—two of which in their Chrysalis state, we this year, August 24, 1786, found in a web under the leaves of the plant, in a pond near Malden in Essex; and on the leaves of the same plant, at the same time and place, Dr. GOODENOUGH and myself were so fortunate as to find two specimens of that rare insect the *Sphex fuscipes Linnæi*.

The male flowers vary much in the number of their stamens, and both sorts in the number of the leaves of the calyx.

In treating of the *Typha latifolia*, we promised, when we gave a figure of this plant, to inform our readers whether its seeds vegetated: we have since then had an opportunity of observing one of its heads, as it lay in a wet situation, assume a green colour, which, on a careful examination, it was found to owe to the seeds having just begun to vegetate.



Sparganium ramosum.



Sparganium simplex.

J. Sowerby del. et sculp.

SPARGANIUM SIMPLEX. SMALL BUR-REED.

SPARGANIUM *Lin. Gen. Pl.* MONOECIA TRIANDRIA.

MASC. Amentum subrotundum. *Cal.* 3-phyllus, *Cor.* o.

FÆM. Amentum subrotundum. *Cal.* 3-phyllus. *Cor.* o. *Stigma* 2-fidum. *Drupa* ex succa, 1-sperma.

Raii Syn. GRAMINIFOLIÆ NON CULMIFERÆ SINGULARES ET SUI GENERIS.

SPARGANIUM *simplex*, foliis basi triangularibus, lateribus planis, pedunculis simplicibus.

SPARGANIUM *simplex*, foliis ensiformibus planis, caule simplici, *Hudson Fl. Angl.* p. 401.

SPARGANIUM *natans* foliis decumbentibus planis. *Lin. Syst. Vegetab.* p. 702. *Sp. Pl.* 1378.

SPARGANIUM non ramosum. *Baub. Pin.* 15.

SPARGANIUM non ramosum. *Parkins.* 1205. *Raii Syn.* p. 437. n. 2, 3. Bur-reed not branched.

LINNÆUS makes only two species of the genus Sparganium, one of which he calls *erectum*, and the other *natans*; the former he describes as very common in ditches and fish-ponds, the latter peculiar to lakes and deep waters.

Older Botanists describe three species, the *ramosum*, the *non ramosum*, and the *minimum*; the *non ramosum* LINNÆUS considers as a variety of his *erectum*; it is this plant which we here give a figure of, from a thorough conviction of its being a species perfectly distinct from the common one, whether it differs specifically from the *natans* we do not take on us at present to determine: Mr. LIGHTFOOT, who has seen the *natans* in many places in Scotland, pronounces it a species; Mr. HUDSON, on the contrary, considers it as a variety of the present plant;—certain it is, soil and situation will occasion an amazing difference in the appearance of plants; we need only look at the *Polygonum amphibium* to be convinced of this; when it grows on land its leaves are all erect, in the water they float; the leaves of the *Festuca fluitans* float in the spring; as the summer advances they grow upright; possibly the depth and consequent coldness of the water, with other circumstances, may occasion the present plant to assume the floating appearance which authors describe:—culture, perhaps, can only decide this matter:—let the experiment turn out as it may, as there are found to be two species with erect leaves, it became necessary to alter LINNÆUS's names, which Mr. HUDSON having judiciously done we have adopted them.

We shall now point out the several characters in which the present plant has appeared to us to differ from the *ramosum*.

It differs in its place of growth,
In its size,
In the colour and shape of its leaves,
In the branchedness of its flower-stalks, and
In the colour of the male and female flowers.

The common Bur-Reed grows in almost every ditch in the neighbourhood of London, the small one on the contrary is found only in particular spots, particularly in such pools of water as one meets with on heaths, and which are frequently made by the digging of gravel, along with the *Myriophyllum*, the *Alisma Damasonium*, *Sison inundatum*, *Scirpus fluitans*, &c. It particularly abounds on Battersea Common, just before you enter Wandsworth on the left-hand side from London, and flowers during the whole of the summer.

It is seldom found more than one fourth part so high as the *Sparganium ramosum*.

The leaves incline much more to a yellow colour, and instead of being hollow on two sides near the base, as those of the *ramosum* are, they are flat, so that a transverse section forms a triangle with nearly plain sides; we look on this as its best specific character. Such as have opportunities of observing the *natans*, will do well to observe whether its leaves are similar near the base.

Each flower-stalk supports only a single globule of male or female flowers; the lowermost which support the female flowers vary considerably in length, being sometimes more than an inch long, and at other times sessile.

The flowers before they blow look yellow, and have none of that blackness about them, so conspicuous in those of the *ramosum*: they are also larger in proportion.



Mercurialis annua.

MERCURIALIS ANNUA. ANNUAL, OR FRENCH MERCURY.

MERCURIALIS *Lin. Gen. Pl. DIOECIA ENNEANDRIA.*

MASC. *Cal. 3-partitus. Cor. o. Stam. 9-f. 12. Antheræ globosæ didymæ.*

FÆM. *Cal. 3-partitus. Cor. o. Styli 2. Caps. dicocca, 2-locularis, 1-sperma.*

MERCURIALIS *annua caule brachiato, foliis glabris, floribus spicatis. Lin. Syst. Vegetab. p. 746. Spec. Pl. p. 1465.*

MERCURIALIS *caule annuo, brachiato, foliis conjugatis, ovato lanceolatis, glabris. Haller Hist. n. 1600.*

MERCURIALIS *Cynocrambe Scopoli Fl. Carn. n. 1226.*

MERCURIALIS *testiculata, sive mas Diosc. et Plinii. Baubin pin. 121.*

MERCURIALIS *spicata, sive fæmina, Diosc. et Plinii. Baubin pin. 121.*

MERCURIALIS *vulgaris mas et femina. Park. 295.*

MERCURIALIS *mas et femina. Ger. emac. 332.*

MERCURIALIS *annua glabra vulgaris. Raii Syn. p. 139. French Mercury, the male and female, Hudson. Fl. Angl. ed. 2. p. 435.*

RADIX *annua, fibrofa, alba.*

CAULIS *pedalis ad sesquipedalem, erectus, glaber, ad basin usque ramosus, geniculatus, geniculis incrassatis, subcompressis, anceps, idque alterne.*

RAMI *alterne oppositi, foliosi, cauli subsimiles.*

FOLIA *opposita, petiolata, ovata, obtusiuscula, patentia, basi biglandulosa, obtuse ferrata, ad lentem ciliata, utrinque glabra, lucidiuscula, venosa.*

PETIOLI *foliis multo breviores, glabri, supra canaliculati.*

STIPULÆ *quatuor, ad genicula, utrinque binæ, minimæ.*

PEDUNCULI *florum masc. axillares, oppositi, erecti, nudi, filiformes, foliis longiores, subtetragoni, superne proferentes glomerulos plures florum, sessiles, odore fimbriata.*

CALYX: PERANTHUM tripartitum, foliolis ovatis, acutis, patentibus, fig. 1.

COROLLA nulla.

STAMINA: FILAMENTA plerumque novem, alba, capillaria; ANTERÆ didymæ, flavæ, fig. 2.

FLORES FÆMINEI in distinctâ plantâ.

PEDUNCULI axillares, foliis breviores, saepius biflori, inter flores fæmineos aliquando observatur masculus imperfectus, longius productus.

CALYX ut in mare, nisi quod foliola paulo minora, fig. 3.

COROLLA nulla.

NECTARIA duo, subulata, utrinque ad latus germinis solitaria, fig. 4.

PISTILLUM: GERMEN subrotundum, didymum, compressum, hispidum; STYLUS vix ullus; STIGMATA duo, subulata, patentia, longitudinaliter superne hispida, fig. 5.

PERICARPIUM: CAPSULA didyma, echinata, bilocularis.

SEmen unicum in singulo loculamento globosum, extus castaneum, intus album.

ROOT annual, fibrous, of a white colour.

STALK a foot or a foot and a half high, upright, smooth, branched quite to the bottom, jointed, the joints swelled, and somewhat flattened, a prominent line runs on each side of the stalk, from one joint to another, and that alternately.

BRANCHES alternately opposite, leafy, somewhat like the stalk.

LEAVES opposite, standing on footstalks, ovate, bluntnish, spreading, having two glands at the base, obtusely serrated, if magnified edged with hairs, smooth on each side, somewhat glossy, and veiny.

LEAF-STALKS much shorter than the leaves, smooth, channelled above.

STIPULÆ four at each joint, two on each side, very minute.

FLOWER-STALKS of the male flowers axillary, opposite, upright, naked, filiform, longer than the leaves, somewhat four-cornered, producing towards the top, several round, sessile, small clusters of flowers, having the smell of elder.

CALYX: a PERANTHUM deeply divided into three segments, which are ovate, pointed, and spreading, fig. 1.

COROLLA wanting.

STAMINA: generally nine FILAMENTS, white and very fine; ANTERÆ double, and yellow, fig. 2.

FEMALE-FLOWERS on a separate plant.

FLOWER-STALKS axillary, shorter than the leaves, generally sustaining two flowers; among the female flowers we sometimes find an imperfect male flower standing on a longer foot-stalk.

CALYX as in the male, except that the leaves are a little smaller, fig. 3.

COROLLA wanting.

NECTARIES two, tapering, one growing singly on each side of the germen, fig. 4.

PISTILLUM: GERMEN roundish, double, flattened, hispid; STYLE scarce any; STIGMATA two, tapering, spreading, on the upper side hispid lengthwise, fig. 5.

SEED-VESSEL a twin CAPSULE, prickly, having two cavities.

SEED one in each cavity, globular, chesnut coloured without, white within.

We can discover no satisfactory reason for calling this species by the name of French Mercury, as it is not peculiar to France, but found with us, in a variety of places: RAY mentions it as growing plentifully on the sea-beach, near Ryde, in the Isle of Wight; and PARKINSON, near a village called Brookeland, in Romney-Marsh, Kent: it would appear to be more common now than formerly, as we very frequently meet with it in waste places, by the sides of roads, and in neglected gardens, in the neighbourhood of London.

The

The Dogs Mercury was at one period thought to be an innocent plant, its poisonous qualities were discovered by accident: the Annual, or French Mercury, has, at present, the reputation of being not only harmless, but to possess medicinal virtues; it is of some consequence then for us rightly to distinguish the two, and in this there is little difficulty. The Dogs Mercury has a strong, creeping, perennial root; this an annual one: the Dogs Mercury flowers only in the Spring; this the whole Summer long: the Dogs Mercury has an unbranched stem; this a stalk branched down to the bottom.

The Annual Mercury has been ranked among the emollient oleraceous herbs; it is said gently to loosen the belly; its principal use has been in glysters.

The whole plant, particularly when in flower, has a strong smell of Elder.

The fine blue colour which the *Dogs Mercury* acquires in drying, has induced several persons to believe, that the plant, if properly treated, might be made, as well as many others, to produce Indigo; this induced Mr. MACINTOSH, an ingenious young gentleman of Glasgow, to make the following chemical analysis of it, with which he was so obliging as to favour me; and though it does not come under the proper plant, we apprehend no apology will be necessary for inserting it here.

" The whole plant, on being put into water, gives out a fine blue colour, which is immediately changed into a green by the addition of an alcali; but an acid has not the power of changing its colour into red, as it does most blue liquors, it only weakens the blue, and if a large quantity be added, it nearly destroys it. The whole plant, on being dried, assumes a blue colour, which it gives out readily to water; but in all cases, if a boiling heat be used, it only acquires a deep dirty green, which changes gradually into a brownish red. Upon agitating violently the blue liquor, I always found it was changed into a brown colour, the blue being entirely lost, and not to be recovered by any means I could fall upon. There falls during this process, a small quantity of precipitate, which is also brown. If the blue liquor be evaporated, the whole is likewise changed into the same brownish colour, and a similar precipitate falls, which, on being put into water, gives it a dark red colour. Newly-slacked lime put into the blue liquor, first changes it into a green, which is very soon after destroyed. I have observed in the beginning of the evaporation, a blue fecula upon the sides of the vessel, but always before the end of the process, the whole was of the brownish colour mentioned above."

AGARICUS AURANTIUS. ORANGE MUSHROOM.

AGARICUS *Linnæi Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis subtus lamellosum.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *aurantius* pileo conico viscidio aurantio, lamellis luteis, stipite nudo. *Lightfoot. Flor. Scot. p. 1025.*

AMANITA glutinosus, flavus, pileo umbonato. *Haller. Hist. n. 2420.*

FUNGUS parvus, lubricus, aureus, lamellis raris, amplioribus, pediculo crassiore. *Mich. p. 147.*

FUNGUS aurantii coloris capitulo in conum abeunte. *Vaillant Bot. Par. p. 67.*

FUNGUS pratenis minor, externe viscidus, striis subtus fulvis seu croceis. *Raii Syn. p. 8. n. 38.?*

In pascuis elatioribus solitarius plerumque invenitur, fat copiose nobiscum. Found plentifully enough with us in elevated pastures, and for the most part singly.

STIPES uncialis, ad triuncialem, nudus, fistulosus, fragilis, et admodum fffilis, crassiusculus, subtiliter striatus, laevis, saepe tortuosus, plerumque croceus. STALK from one to three inches high, naked, hollow, brittle, and much disposed to split, thickish; finely striated, smooth, often twisted, and for the most part saffron-coloured.

PILEUS uncialis, aut biuncialis, raro triuncialis, ut plurimum conicus, praesertim in junioribus, lubricus, et subviscidus, primo coccineus, dein croceus, seu aurantius, demum niger; nonnulli formam conicam retinent usque ad dissolutionem, alii plani fiunt vertice tumescente. STALK one or two, seldom three inches broad, generally conical, especially when young, slippery, and somewhat clammy, at first of a bright scarlet colour, then saffron or orange-coloured, and finally black; some preserve their conical form even in decay, others become flat with a prominent crown.

LAMELLÆ primo albidae, dein subcroceæ, si contundantur statim nigrescentes. GILLS first whitish, afterwards somewhat saffron-coloured, on being bruised quickly becoming black.

As this Fungus is so distinguishable for its colours, so distinct in its specific characters, and withal so common, it is matter of admiration that we do not find more notice taken of it by Authors. Mr. LIGHTFOOT, in his *Flora Scotica*, has given an accurate description of it, which cannot fail of making it known: he quotes SCHÆFFER's figure, which represents our plant, and adopts his name of *aurantius*. Mr. HUDSON does not mention it; and we are not certain whether the plant we refer to in RAY be ours or not. As well as Mr. LIGHTFOOT, we had our doubts whether it was the *fragilis* of LINNÆUS; but considering his description, as well as that of VAILLANT, who gives a figure to which LINNÆUS refers, we are certain it must be a different plant. If the *fragilis* of Mr. HUDSON be the *fragilis* of LINNÆUS, it is a very different plant from ours indeed. *Vid. SCHÆFF, Ic. tab. 230.* to which he refers.

This Fungus is by no means uncommon in elevated pastures, particularly where Eye-bright grows. It is usually dwarfish on heaths; but where the grass is not close fed, it is found with a stalk three inches high. The brilliancy of its colour soon strikes the eye. We may observe, that this colour is most vivid, or most inclined to red in the young ones. As it grows old, it becomes yellower, and quickly changes quite black. Indeed it has an extraordinary tendency to turn black, not only from age, but from the slightest bruise. The stalk is also brittle, and very apt to split.

It is found in perfection about the middle of September.

It does not possess any particular acrimony; but is not numbered with such as may be eaten with safety.



Agaricus aurantius.

G. Smith del. et sculp.

Sow: Fungi pl. 381: Vol. 3:

*Agaricus arvensis.**Linnæus. tab. et fig. 1.*

Sow. Fungi: Pl. 264. Vol. 3.

AGARICUS ÆRUGINOSUS. VERDIGRIS MUSHROOM.

AGARICUS *Linnæi Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellofus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *æruginosus* stipitatus, annulatus, annulo superne nigricante; pileo convexo, cæruleo-viridi, viscofo, lamellis purpureo-fuscis.

AGARICUS *viridis* stipitatus pileo convexo viridi, lamellis albidis, stipite longo virescente. *Hudson Fl. Angl. p. 614.*

AMANITA anulatus, pileo convexo cæruleo viridi, lamellis roseo cæruleis. *Haller Hist. n. 2444.*

FUNGUS medius pileo muco æruginei coloris obducto. *Raii Syn. ed. 3. p. 6. Deering Catal. Stirp. p. 80.*

FUNGUS pileolo cucullato, viscido, intense viridi, et quasi vernigine obliito, inferne lamellis et pediculo albis, *Micheli p. 152.*

AGARICUS. *Schæf. Icon. tab. 1.*

Solitarius, et cæspitosus in sylvis et pascuis nascitur, rarior nobiscum.	Grows singly, and in clusters, in woods and pastures, scarce with us.
STIPES biuncialis, seu triuncialis, ex albo virescens, fistulosus, annulatus, infra annulum floccosus, teres, subfragilis, supra annulum lœvis, substriatus, ad basim lanuginosus, raro strictus.	STALK two or three inches high, of a greenish white colour, hollow, ruffled, below the ruffle shaggy, round, somewhat brittle, above the ruffle smooth, and slightly striated, at the base woolly, seldom perfectly straight.
ANNULUS persistens, tenuis, superne striatus, e fusco nigricans, inferne virescens.	RUFFLE permanent, slender, on the upper side striated and of a blackish purple colour, on the under side greenish.
PILEUS unciam aut duas latus, primo convexo-conicus, ex cæruleo-viridis, lubricus et subviscidus, lœvis, prope marginem et in margine ipsa floccis albidis adspersus, demum planus aut parum concavus, e fusco-lutescens, cuticula facile separanda.	CAP from one to two inches broad, at first somewhat roundish, yet conical, the colour of verdigris, slippery and somewhat viscid, smooth, except near the edge, and on the edge itself, where it is covered with a whitish, shaggy substance, finally flat, or a little concave, of a yellowish brown colour, the cuticle easily peeled off.
LAMELLÆ numerosæ, brevioribus interjectis, e fusco-purpurascentes, parum nebulosæ, demum nigricantes.	GILLS numerous, with shorter ones intervening, of a brownish purple colour, a little clouded, finally blackish.

Amidst that variety of colour observable in the Fungi, there are few in which the green predominates so much as in the present species: hence it affords an obvious character. But, alas! in these plants of a day, we must not lay too much stress on colour: *nimum ne crede colori* cannot be better applied to any subject. It is, however, chiefly in its decline that it loses that verdigris green, which on its first appearance renders it so conspicuous, the cap being often found of a pale yellowish brown colour, and sometimes variegated with green, yellow, and black. The viscosity of the cap is as constant a character as its green colour, and this also is most observable in the young ones, especially in the morning, or in showery weather; for in a very dry atmosphere the most viscid Fungi lose their viscosity. Next to the greenness and viscosity of the cap, we may remark, that the edge of it, where it breaks from the annulus, is very apt to be ragged: we have also found, that the outer skin of the cap has an unusual tendency to separate from the flesh. The gills, from the very beginning, are of a purplish brown colour; and the annulus or ruffle, while connected to the edge of the pileus, receives from the gills a fine powder, which communicates to the upper part of it a dark brown tint; this, contrasted with the light colour on the underside, forms a very conspicuous character. The stalk below the ruffle is usually of a blueish green colour, and shaggy.

This Fungus is not very common with us. Several of them appeared this autumn, in a grass plat in my garden; and I have observed twenty or thirty in Earl Mansfield's little wood near the Spaniard, Hampstead-Heath, where if the season be not remarkably unfavourable, they are with certainty to be found about the middle of September.

It has no acrid or disagreeable taste; nevertheless, we do not venture to pronounce it an eatable one.

RAY's description, though a short one, and SCHÆFFER's figure, accord exactly with our plant. HALLER quotes SCHÆFFER: we therefore conclude from that circumstance, as well as from the consonancy of his description, that our plant is the same as his; and MICHELI, who is also quoted by HALLER, gives a description so exactly corresponding with RAY's, that we have no doubt but his also is the same as ours. Whether our plant be the *viridis* of Mr. HUDSON, we have our doubts; for he quotes authors who describe two different Fungi; at the same time that he quotes SCHÆFFER, *tab. 1*, (our plant) and HALLER, *n. 2444*, (our plant) he refers to MICHELI, RAY, and SCOPOLI, who describe another Fungus. SCOPOLI gives to his the name of *virens*; part of his *DIAGN.* is *Stipes nudus*. RAY quotes the *Fungus magnus viridis* of STERBECK, and the *sylvarum asper esculentus*, *seu ex albo virescens* of J. BAUHINE: and MICHELI thus describes his, *Fungus esculentus*, *pileo pulvinato, viridi, inferne cum pediculo albo*. This description is quoted by SCOPOLI for his *virens*. Thus it would appear that these two are different species; we must leave it to Mr. HUDSON to reconcile these contradictory synonyms.

It could be wished, that every Fungus was as distinct in its characters as the present, we should then soon see order spring from that chaos in which this tribe of plants has been considered as so long involved; not but that chaos which LINNÆUS and other Botanists have so much lamented, is rather to be considered as a creature of their own imagination than as the child of nature. The more we look into these variable plants, the more we are convinced that our ignorance of them depends on our inattention and want of observation. Bestow the same pains on them as on other plants, observe them in all their states, in all their varieties of situation, and we shall find that each of them has some peculiarity of character. The discovery of this character is what we should aim at; but this will not be found in the closet. We may read over, with the most sedulous attention, BATARRA, MICHELI, GLEDITSCH, and HALLER, or turn over the multitudinous plates of SCHÆFFER to little purpose; to know the Fungi well we must watch them daily and yearly; in short we must live with them.

AGARICUS CARNOSUS. FLESHY MUSHROOM.

AGARICUS *carnosus* pileo convexo albo, medio rufescente, lamellis confertis albis carne pilei duplo angustioribus.

In sylvis acerosis habitat nobiscum rarer, autumno vigens. Found with us in pine woods in the autumn, scarce.

Solitarius plerumque invenitur, subinde cespitosus.

STIPES triuncialis et ultra, magnitudine fere digitii minimi, crassus, nudus, fistulosus, carne dia-metro tubi, firmus, albidus, saepe rubro macu-latus, parum striatus, basi intra folia pini emortua descendente.

PILEUS uncialis, ad triuncialem, albidus, medio ru-besens, et hinc inde maculis concoloribus adspersus laevis, carnosus, carne multo, solido, albo, primo convexus, dein planiusculus, nec acris, nec lactescens.

LAMELLÆ numerosissimæ, albidæ, angustæ, sesqui-lineam latae, brevioribus interjectis, demum rufescentes.

Is generally found growing singly, sometimes in clusters.

STALK three inches high and upwards, almost the thickness of the little finger, clumsy, naked, hollow, the flesh the diameter of the tube, firm, whitish, often spotted with red, faintly striated, the base descending amongst the dead pine leaves.

CAP from one to three inches in diameter, reddish in the middle, and here and there blotched with spots of the same colour, smooth, fleshy, the flesh abundant, solid, white, first convex, finally almost flat, neither acrid nor milky.

GILLS exceedingly numerous, whitish, narrow, a line and a half broad, shorter ones intervening, finally of a reddish brown colour.

We can find no certain traces of this fungus, either in the figures or descriptions of authors; at least in those of our own country. This may perhaps arise, from its being a local, or at least not a common mushroom.

We have hitherto found it only in Lord Mansfield's small pine wood, Hampstead, and there in no great plenty; but having observed them in the same spot, and assuming the same character for several successive years, we are perfectly satisfied of its being a very distinct species. This autumn, Sept. 22, 1785, we found about twenty of them.

It is in some degree characterised by the singularity of its colour. We have few fungi that have a white Pileus, with a reddish disk, and that, together with the stalk, irregularly blotched with the same colour; but it is more distinguished by the quantity of flesh both in the Pileus and Stipes. It is this which gives it an unusual degree of firmness to the touch, and has induced us to bestow on it the name of *carnosus*.

Chewed, it discovers no unpleasant taste: but notwithstanding this circumstance, and notwithstanding its tempting appearance, we must, till we have further proofs of its innocence, place it at least among the suspicious fungi.



J.C. Sowerby del. et sculp.

Agaricus carnosus.
Sow. Fungi: Pl. 246: Vol 3.



J. Sowerby del. et sculp.

Agaricus verrucosus. Sow. Fungi : Pl. 286. Vol. 3. —

AGARICUS VERRUCOSUS. WARTY-MUSHROOM.

AGARICUS Linn. Gen. Pl. CRYPTOGAMIA FUNGI.

Fungus horizontalis, subitus lamellosum.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *verrucosus* stipitatus, stipite bulbose, annulato, annulo laxo, pendulo, pileo verrucoso, lamellis albis.

AGARICUS *muscarius* stipitatus, lamellis dimidiatis solitariis, stipite volvato: apice dilatato, basi ovato. Linn. Syst. Veg. p. 820. Spec. Pl. 1640. Fl. S. 449.

AGARICUS *verrucosus* caulescens, pileo convexo cinereo, verrucis lamellisque albis. Hudson. Fl. Angl. p. 613. Lightfoot p. 1012.

AMANITA petiolo procero fistuloso annulato, pileolo plano striato verrucoso sordido lamellis albis. Haller Hist. n. 2397.

AMANITA petiolo annulato, pileo sanguineo, lamellis albis. Haller Hist. n. 2373.

LEUCOMYCES gemmatus. Batar. tab. 6. B.

LEUCOMYCES speciosior. Batarra tab. 6. A.

AGARICUS *muscarius*. Scopoli Fl. Carn. n. 1459.

FUNGORUM perniciosorum. Gen. 12. Spec. 4. Clus. p. 280. Schæffer. Icon. Fung. t. XX. LXXIV? XC. XCI. CCXLI. CCLVIII? CCLXI.

Solitarie nascitur in sylvis frequens.

Frequent in woods, growing singly.

STIPES palmaris et ultra, crassitie digitii minimi, seu intermedii, ad basin semper bulbosus, teres, ex albo-rubescens, et maculatus, non raro flavescens, annulatus.

STALK a hand's breadth or more in height, the thickness of the little or middle finger, always bulbous at its base, round, of a reddish white colour and spotted, not unfrequently yellowish, and furnished with a ring or ruffle.

ANNULUS magnus, persistens, pendulus, plerumque striatus, ex lamellis impressis.

RING or ruffle large, permanent, pendulous, for the most part striated.

PILEUS duas, tres, aut etiam quatuor uncias latus, primo subrotundus, dein hemisphericus, demum planus, ad marginem superne obsolete striatus, varii coloris, saepius vero aut sordide ruber medio saturatus colorato, aut flavescens; plerumque verrucosus, interdum nudus, verrucis albidis.

CAP two, three, or even four inches broad, at first roundish, then hemispherical, lastly flat, on the upper side, faintly striated at the margin, various in its colour, but most commonly either of a dingy red, strongest in the middle, or yellowish, for the most part warty, sometimes bare, the warts whitish.

LAMELLÆ numerosæ, brevioribus interjectis, horizontales, primo albæ, demum sordide carneæ.

GILLS numerous, shorter ones intervening, horizontal, at first white, lastly of a dirty flesh colour.

Most modern authors consider the *Agaricus verrucosus* and *muscarius* as different species. Mr. LIGHTFOOT suggests, that they may be only varieties differing in colour. Repeated examination has perfectly convinced us, that his conjecture is well founded; the *verrucosus* being with us by far the most common, we shall consider it as the species, and the *muscarius* as the variety: so singular and so beautiful is the variety, however, that we intend giving a separate plate of it.

Before we speak more particularly of these fungi, it will be proper to explain to some of our readers what is meant by a few terms made use of in describing this and three or four others, viz. *Volva*, *Annulus*, and *Velum*, parts which occur in some mushrooms, but not in others.

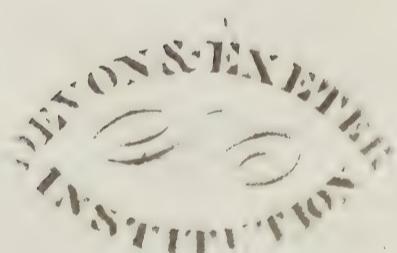
There are a few of these plants, which, on their first emerging from the earth, assume the appearance of an egg, and are enclosed in a kind of membranous shell or case; this case we call the *Volva*. If we cut the egg longitudinally down the middle, we may observe the enclosed fungus as yet unexpanded. Vid. Schæffer Icon. Fung. tab. 244, fig. 1, 2, 3. As the mushroom increases in size, it bursts open this *Volva*, and sometimes leaves it entirely behind, as in the *Phallus impudicus*; but more frequently the upper half of it is borne upwards on the Pileus or Cap, which not being sufficiently large to cover when the Pileus is expanded, it breaks in various directions, and appears in the form of a number of little knobs or warts irregularly scattered. Such then is the origin of the warts: as the membrane which forms them may sometimes be thinner than ordinary; or as it may be rubbed off as the mushroom pushes itself out of the ground, or destroyed by heavy rains, or other accidents; so we never find these warts alike either in number or shape in any two fungi, and frequently entirely wanting; but if no extraordinary accident happens, they will be found in every well-formed fungus of this species. We may remark, that the *Volva*, which we have thus described, is not the *Volva* of LINNÆUS; his *Volva* is our *Annulus*.

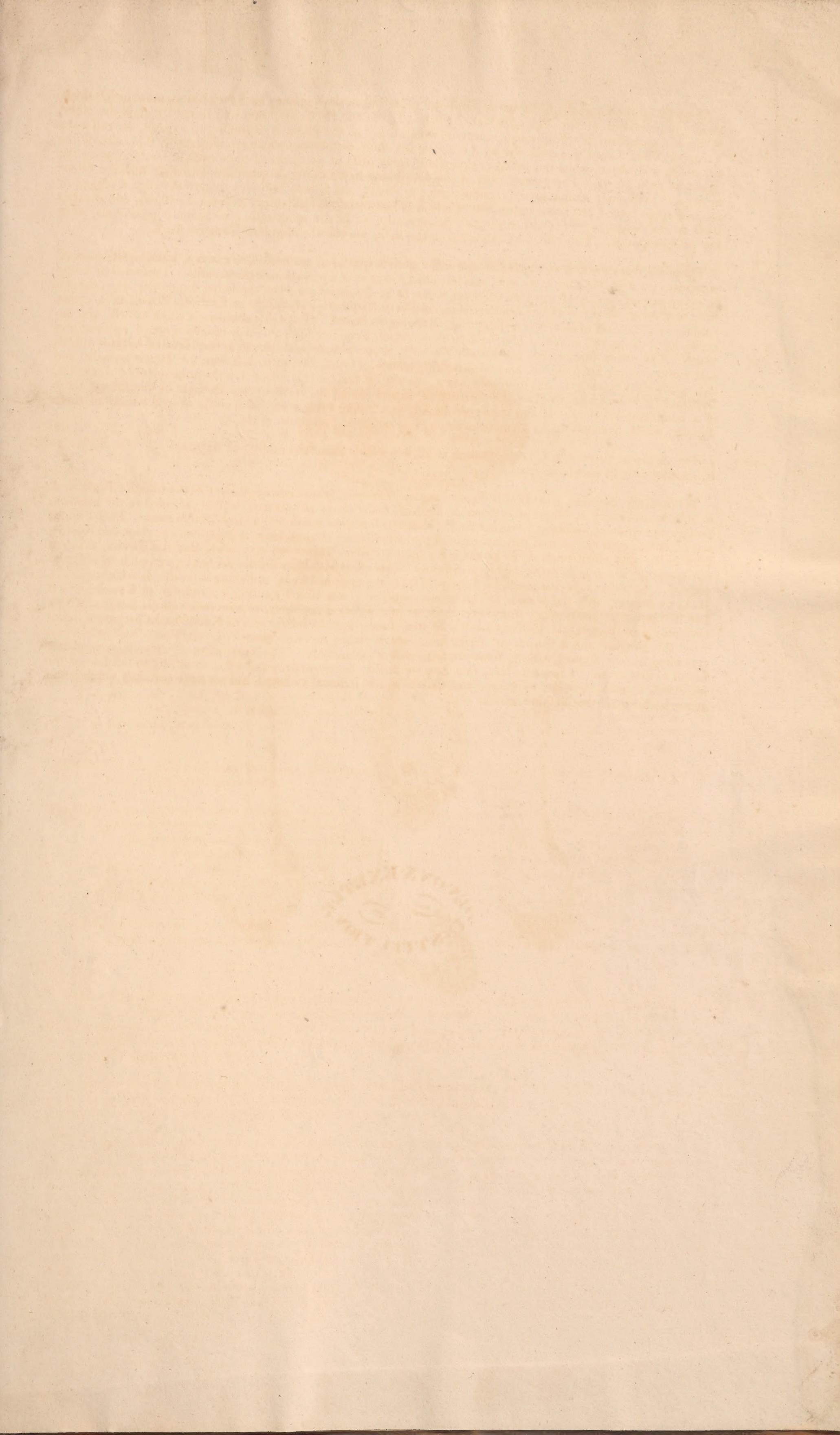
In many of the fungi the Gills are covered and protected in their infancy by a membrane, more or less thick, totally independent of the Volva, attached to the edge of the Pileus one way, and round the stalk the other. While the membrane is visibly thus connected, which is just as the Pileus is beginning to expand, we call it the Velum or Veil, though generally the term is applied to those membranes which are remarkably thin, almost like a cobweb, and which, when the Pileus is expanded, leave little or no traces of their existence behind, as in the *Agaricus fascicularis*. The greatest part of this membrane in separating is generally left either with the Pileus or Stipes: sometimes what it leaves remains with the Pileus, and is only sufficient to give the edge a ragged or toothed appearance; but more commonly, where it is in any degree substantial, it leaves the Pileus, and attaches itself to the Stipes, where it either projects horizontally, as in the *aeruginosus*; or becomes pendulous, as in the present species. This part, thus attached to the stalk, we call the *Annulus*, *Ring* or *Ruffle*.

There are three characters which distinguish the present species of mushroom, viz. a cap, more or less covered with warts; a stalk, bulbous at its base, and furnished above with a pendulous striated ruffle. These will be found in every perfect fungus of this sort. Colour is not to be depended on; the cap being sometimes, as in the variety *muscarius*, of the most beautiful crimson, and very frequently, especially in Charlton Wood, of a cream colour; but its most usual tint is a dingy red, inclining to brown. The Gills are always white at first, and become of a dingy red at last. The stalk in those which have a reddish Pileus is usually mottled with red and white. The whole fungus, but particularly the base, is apt to be soon destroyed by the larvæ of various insects, and among others by those of an undescribed species of *Tipula*, somewhat less than the *Tipula plumosa*, and distinguished by having its legs unusually hairy. It was by accident we discovered the attachment of this insect. Betwixt the Velum and the Gills, previous to the separation of the former from the edge of the Pileus, there is a considerable cavity. In this cavity we found, in a young Fungus of this species, at least twenty of these *Tipulæ*, which had introduced themselves through an accidental aperture in the Velum.

The *Agaricus verrucosus* is very common in all our woods about the middle of September. The *muscarius* is plentiful only in particular spots.

We had the curiosity to taste this shewy fungus. Chewed, it was not unpleasant in the mouth; swallowed, it quickly produced a disagreeable burning kind of sensation in the throat, which extended to the stomach, though the quantity swallowed was but small; and this sensation continued a considerable time. That I might not be mistaken in my idea of this sensation, I prevailed on my draughtsman and gardener to chew and swallow some of it, who complained of its producing a similar effect. Hence we may infer, that this species, taken in any quantity, is likely to prove highly poisonous. This effect accords with the account given of it by different authors. SCOPOLI makes mention of some persons being poisoned by it, mistaking it for the *Agaricus cæsareus*. HALLER relates, that six persons of Lithuania perished at one time by eating it; and that in Kamtschatka it had driven others raven mad; that there, three or four of them are eaten without much effect, but that ten intoxicate: nevertheless, the Russians eat it with their food; and the inhabitants of Kamtschatka prepare a liquor from this fungus, and a species of *Epilobium*, which, taken in small quantities, inebriates, and produces a trembling of the nerves, making some joyous, others melancholy. The very urine of those who drink it is found to intoxicate. LINNÆUS says, that flies are killed, SCOPOLI only stupefied, by tasting an infusion of the *muscarius* in milk, whence its name, and that it is also inimical to bugs; but we have certainly much better remedies for these troublesome insects.





R. 9

Med. Hist.

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V.6

Spine repaired with a harmonizing
leather. New inside cloth hinges
in front & new hand sewed headbands.
Tooled in spirit of the original.

Sky Meadow Bindery
April 1991

